AUDITOR
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Alberta

Report of the Auditor General on the Alberta government's BSE–related assistance programs

July 27, 2004

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Ms. Janis Tarchuk, MLA
Chair
Standing Committee on Legislative Offices

I am honoured to send you my report entitled "Report of the Auditor General on the Alberta government's BSE–related assistance programs" dated July 27, 2004.

This report responds to a request of March 8, 2004 from The Hon. Shirley McClellan, MLA, Deputy Premier and Minister of Agriculture, Food and Rural Development that I answer questions raised whether the public dollars used to support the people in Alberta's beef industry helped to achieve the intended goals of the assistance programs.

[Original signed by Fred J. Dunn, FCA]
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Introduction

Transmissible spongiform encephalopathy (TSE) is a fatal neurodegenerative disorder associated with an abnormal protein known as a prion. TSEs manifest themselves in different animals. Bovine spongiform encephalopathy (BSE) is found in cattle; its equivalent in cervids is chronic wasting disease (CWD) and in sheep, scrapie. In humans, BSE has been linked to variant Creutzfeldt Jacob disease, a fatal neurological disease. No vaccine or cure is currently available for TSEs.

At present, there is no way to diagnose BSE conclusively in live cattle. Cattle may exhibit clinical signs that suggest BSE such as circling, falling down, nervousness, or abnormal aggression (the symptom that led to the term "mad cow disease"). However, to confirm BSE requires a histological examination of the brain. As well, it takes approximately four to six years for the symptoms to manifest themselves in cattle. BSE is a relatively new disease to the world of science, so the science is still evolving. This evolution leads to uncertainty about how to deal with the disease in terms of world agricultural trade.

On May 20, 2003, a single case of BSE was confirmed in Alberta. A six year old downer cow tested positive for BSE. Following the announcement that BSE had been found in Canada, the United States and all other important beef and cattle trading partners immediately closed their borders to live Canadian cattle and beef products. The impact on the Alberta beef industry and on the Alberta rural economy in general has been horrendous. From June 2003, the Alberta Ministry of Agriculture, Food and Rural Development (AFRD) has designed and implemented several programs to assist the integrated beef industry.

There have been questions since the discovery of BSE about AFRD's response to the emergency. The first concern related to the three month delay in verifying the disease through laboratory testing. The media and legislative opposition have questioned who received the BSE financial aid program payments and the extent of the increase in the profits of the meat packers. The industry and the public still look to governments to make key decisions about future directions for the beef industry. Fourteen months after the announcement of the first case, beef industry participants still discuss the merit of a mass cull of older cows to reduce the oversupply of animals and whether testing 100% of slaughtered cattle for BSE will help regain international markets still closed to Alberta and Canadian cattle and beef.

On March 8, 2004, the Minister of AFRD wrote a letter to me to request that we fast-track work that we had already proposed to carry out. The Minister also asked that we publish our findings in a separate report as quickly as possible. This report fulfills that request of the Minister.

My report begins with an extensive review of the Alberta integrated beef industry and how Alberta prepared for an animal health event such as BSE. These background facts are essential if a reader is to understand the context for my later recommendations and observations. My report outlines the impacts of BSE and how AFRD designed and implemented programs to assist the Alberta beef industry. I go on to analyze the effectiveness of the programs and also comment specifically on the profitability of the meat packers. I obtained information on the profitability of the meat packers from both external groups and from the financial records of Alberta's three major meat packing operations. I conclude by commenting on issues that need to be addressed to secure the future of the integrated beef industry in Alberta and Canada.

To prepare this report, I have called on the expertise of internationally recognized consultants in the field of agriculture and agribusiness. I engaged these consultants to prepare reports on the Alberta beef industry before and after the BSE events of 2003, as well as assessments of Alberta's BSE financial aid programs.

My report contains a number of recommendations designed to help AFRD improve its management of the issues related to BSE. AFRD's responses to these recommendations are also included in this report.

Summary of conclusions, recommendations and observations

Conclusions

Generally, the goals of the BSE financial aid programs were to stabilize the markets and provide assistance to industry during transition and adjustment to a new market environment. We have concluded that the program goals were met.

The programs, with the exception of certain aspects of the Canada Alberta BSE Recovery Program (CABSERP), were generally well-designed, especially given the uncertainties and time constraints faced by AFRD staff in designing and implementing them. The programs had clearly stated goals and contained an incentive for producers to obtain the highest possible cash price for their cattle from processors and packers. The programs also contained controls to prevent manipulation of prices to increase deficiency payments, or claims for cattle that did not qualify under the programs. Importantly, the programs maintained cash flows for participants by covering expenses such as feed costs in the period of uncertainty. And, without the programs, financial institutions may not have been as willing to work with the producers to ease the uncertainty that the discovery of BSE created.

CABSERP was the first BSE financial aid program offered in Alberta. It was the largest program in dollar terms and the only federal/provincial BSE program. CABSERP's design included flaws such as a predetermined end date, a publicly announced budget, and a short adjustment period at the end of the program. AFRD corrected these flaws in later programs. CABSERP achieved its objective of increasing slaughter volumes. However, the program put further downward pressure on cattle prices as producers rushed to sell their cattle for slaughter to take advantage of the program.

Cattle prices had already begun to fall prior to the introduction of CABSERP. This was a result of supply and demand forces at work in a distorted market in which total demand had fallen and supply was increasing. The reduced cattle prices resulted in allegations that the packers received program funds destined for the producers. These allegations are not true. Funding under CABSERP went to the owners of cattle eligible for compensation under the program. The program was designed, subject to a deductible, to compensate producers for the reduced prices they received from packers on the sale of their cattle. The more cattle prices dropped in relation to a reference price, the more producers were compensated for the loss in value of their cattle. The issue is not that the packers received program funds destined for producers, but rather, to the extent that CABSERP caused cattle prices to fall, the cost of the program increased. We do not know the extent to which costs increased because of the program.

There is no doubt, however, that there has been a shift in the value obtained from cattle between the producers and the packers since the discovery of BSE. Producers now receive less for their cattle than prior to the discovery of BSE and to that extent, the decrease in value represents a transfer of value from the producers to the packers.

Recommendations

BSE is an animal health issue that can impact international trade and the economic viability of the integrated beef industry, and is linked to a human health concern. Considering other possibilities, the BSE animal health issue in Alberta was not a particularly serious one. A contagious animal health disease like foot and mouth would create a greater disaster. Overall, Alberta was reasonably prepared for this animal health incident and at the time of the discovery of BSE was working to address the existing deficiencies in its disease identification systems. Alberta, Canada, and their trading partners were at minimal risk in terms of risk to human health. However, Alberta was not well prepared for the impact of an animal health incident on its agricultural economy and international trade. We recommend that:

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The Department of Agriculture, Food and Rural Development complete a risk assessment that analyzes the probability and impact of major risks to the agriculture and agri-food industry in Alberta. Based on the results of the risk assessment, the Department should also develop risk mitigation and response strategies.

AFRD management comments

Agree. The Department has historically completed various components of the recommended risk assessment to facilitate development and delivery of appropriate Alberta programs as well as those that are delivered in partnership with the Federal Government. Actions undertaken to date regarding risks resulting from animal health issues include:

- *Detailed discussion and analysis of Britain's response to the BSE situation (The Chief Provincial Veterinarian spent one week in Britain with Officials reviewing all aspects of the response including post mortem analysis).*

- *The Foreign Animal Disease Eradication Support plan was developed in collaboration with the Canadian and North American governments. Recent updates have incorporated BSE. A simulated model has been completed with our partners.*

- *The governments of Alberta and British Columbia have jointly requested a critical analysis of the management of the BSE and Avian Influenza (AI) incidents.*

- *The opportunity to reinsure risks such as BSE have been investigated with the reinsurance industry.*

- *The province has initiated its work on a provincial risk management strategy including the potential use of world-recognized actuaries to complete critical analysis.*

- *The department will review the OIE guidelines, including proposed revisions as suggested by Canada, the US and Mexico, with respect to animal disease risks to human and animal health and assess current precautionary measures and what further action might be needed to minimize such risks. Most recent Harvard BSE risk assessments will be reviewed and analyzed. A critical analysis of the BSE incident will include an economic assessment of its impacts, which will also serve as a good model for assessing impacts of other animal diseases that could impact the industry and Alberta's rural economy in significant ways.*

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Measurable targets help to establish the extent to which program objectives are achieved. Measures also help management determine the effectiveness of programs against plan. When actual experience diverges from anticipated results, management has a comparator against which to evaluate the program's progress. Quantifiable measures are tools that help management determine whether a program is on track or whether the design and delivery of the program should be adjusted to achieve the original objectives.

AFRD did not establish measurable targets for its BSE financial aid programs. We recommend that:

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The Department of Agriculture, Food and Rural Development establish measurable targets for its emergency financial assistance programs.

AFRD management comments

Agree. Management agrees that measurable targets are critical to the accountability framework and good governance. With respect to the BSE issue, the most significant event to happen to the cattle feeding business in two hundred years, numerous outcomes were targeted and are outlined in the report. However, given the resulting severe dysfunctionality of the market and the panicked state of the industry at the time that programs were developed and implemented, any targets set would not have been realistic targets for achievement.

The overall goal was to increase slaughter for animal welfare reasons and this was accomplished with doubling of slaughter numbers. However, the department will endeavor to establish reasonable targets for any future BSE related response measure that might be necessary.

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Excluding news releases, AFRD produced only two public documents to describe the impact of the BSE financial aid programs. One was the beef pricing report on March 11, 2004; the other was the list of cheque recipients on June 14, 2004. Both documents could have been timelier and the beef pricing report more complete. We recommend that:

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The Department of Agriculture, Food and Rural Development improve its external accountability reporting.

AFRD management comments

Agree. Although only two "formal" reports were released over the time period in question, several avenues were utilized for keeping the public well informed during this crisis and extreme efforts were made to ensure engagement at a high level by both industry and the media was achieved as follows:

- *Almost 1000 media interviews were conducted regarding these issues in 2003 and almost 500 media interviews have been conducted to date in 2004*
- *Daily news conferences were held, including weekends, on an as-needed basis*
- *Over 40 official news releases have been issued by the Alberta government on everything from technical issues, program details, project updates and border issues related to the BSE incident*

- *Since May 20, 2003 the Minister of Agriculture, Food and Rural Development has delivered in excess of 200 formal speeches to various public and stakeholder audiences and has openly commented on the impacts of BSE and measures the Alberta government has taken to assist the industry*
- *Premier Klein has also been open and forthright with industry, other governments, the media and the general public to help them understand the complexity of the issue and how the Alberta government is responding*
- *Countless meetings were held with industry officials*
- *More than 50 rural meetings were held which reached out to more than 10,000 industry stakeholders*
- *Industry has been engaged in the contingency planning process*

This spring, the department also released the government-industry strategic framework report (Alberta Beef – Focus on the Future), which contains short, intermediate and longer-term strategies and actions required for BSE recovery purposes. Ongoing dialogue with industry and federal agencies will occur throughout the implementation of this report and progress reports will be provided to industry and the general public.

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As a result of the borders remaining closed to live cattle, there is a huge surplus of over thirty month of age cattle that is becoming a market factor. This will be a major issue until either the border opens to live cattle or the slaughter capacity in Canada increases.

AFRD released their strategic framework for Alberta's beef industry on April 30, 2004. AFRD needs to perform the actions described in the framework on a timely basis. However, important immediate issues such as what to do with the surplus in cattle and managing the size of the 2005 calf crop were not discussed in the framework. We recommend that:

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The Department of Agriculture, Food and Rural Development, working with other governments and industry, immediately develop and implement a contingency planning process.

AFRD management comments

Agree. Numerous activities are underway to resolve critical issues as soon as possible. Given the investment required to achieve the increase in packing capacity and the need to respect the confidentiality of those willing to undertake the commitment necessary to achieve the results, the Department has not made its efforts in this regard public to date. Actions underway include the following:

- *Sixty-five industry and government experts authored a contingency plan in the early stages of response. The plan has been subsequently revised.*
- *Agriculture Assistant Deputy Ministers of Agriculture Policy from across Canada are meeting regularly to gain consensus on actions that need to be undertaken to collectively respond to the issues raised to date and proactively identify and address those not yet fully discussed. Results of these discussions will be tabled with the Federal, Provincial and Territorial Agriculture Ministers.*
- *AFRD officials participate in the Beef Value Chain Round Table (BVCRT) process. The BVCRT is reviewing all elements of BSE impacts and a number of sub-committees have been struck to review specific issues and develop options for BSE recovery at the national level.*
- *AFRD officials are also working with representatives from the Alberta Beef Producers on assessing short-term measures to stabilize or increase market prices of fed cattle.*
- *The Honourable Shirley McClellan recently met with the new Federal Minister of Agriculture to convey Alberta's concerns with the current status of the industry.*

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One critical technical issue is Canada's requirement to meet increasing BSE testing quotas in 2004 and 2005. If Canada does not harvest and test enough higher risk samples to meet international BSE testing guidelines, the re-opening of the borders could be delayed. Also, Canada may be placed in a higher risk BSE category making it that much more difficult to market Canadian beef internationally. It is not clear how these new and increased requirements will be met. We recommend that:

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The Department of Agriculture, Food and Rural Development, working with the federal Canadian Food Inspection Agency (CFIA) and the beef and related industries, ensure that Alberta meets its contribution to Canada's BSE testing quota.

AFRD management comments

Agree. Management understands the importance of achieving these targets and maintaining Canada's trading status within the global marketplace. Actions have been initiated to facilitate achievement. The Department will require the full cooperation of industry to achieve the required result. The following actions are underway:

- *The Level II post mortem lab has been upgraded, enhancing surveillance capability to levels that substantially exceed those required.*
- *Construction on a new Level III biocontainment facility, which will further enhance surveillance capability, is expected to begin this fall with completion targeted for July 2005.*
- *Alberta is reviewing program options to increase payments per head for producers, processors, renderers and vets to ensure the timely collection of tissues required for sampling.*

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Observations

In the course of our work, we have identified issues critical to the success of the integrated beef industry that still need to be addressed. The issues we have identified may not be a complete list, but they are indicative of the range and significance of further challenges. Solutions require cooperative action between the major stakeholders in the beef industry: the provincial and federal governments, producers, processors, associations, and the industries that support the beef industry.

These issues include:
- Re-opening borders to cattle and beef exports.
- Harmonizing BSE-related technical matters such as feed bans and SRMs between Canada and the US.
- Harmonizing Canada's beef grading system with the US's.
- Developing slaughter capacity for surplus cattle.
- Developing new processing capacity for value added products, such as nutraceuticals and table-ready finished products.

- Ensuring that the Canadian Agricultural Income Stabilization Program provides sufficient coverage for producers.
- Enhancing the accuracy, completeness, and timeliness of data about the integrated beef industry.
- Supporting the rural industries and professions that form the rural economic infrastructure.
- Facilitating consensus within Alberta's integrated beef industry.

The public and the media, in Alberta and across Canada, have asked for specific information on the profitability of the meat packing industry in Canada after May 20, 2003. I met with senior representatives from the three major packing organizations in Alberta who answered my request for information because I committed to respect the confidentiality of the financial information regarding the performance of their individual operations.

I received financial information for their fiscal 2001, 2002 and 2003 years and financial information for the period up to December 31, 2003. The financial information provided to me by the three organizations was agreed to the financial records used to prepare their individual audited fiscal year financial reports.

On June 14, 2004, AFRD published a list that identified all program recipients, which included the three major Alberta-based packers that received directly, in total, at least $45 million in payments from the BSE compensation programs. I have confirmed that the packers were eligible for the money directly received under the programs.

The three major Alberta-based packers benefited significantly from the impact of BSE on the price and slaughter volumes of cattle. The substantial increase in their profits of $130 per slaughtered head (281% increase) resulted from supply and demand forces at work in a distorted market in which cattle supply significantly exceeded their slaughter capacity and domestic and limited export consumers maintained the demand for their production.

Not until meat packing capacity in Canada comes into balance with cattle supply will the market return to its previous competitive state which existed prior to May 20, 2003.

> AFRD management comments
>
> *The Auditor General also makes a number of observations throughout his report. Management agrees with the observations and will continue to provide encouragement to facilitate resolution, even though many of these*

issues are outside of the jurisdiction of the Government of Alberta. As many of these responses require negotiation with potential industry partners, many of the activities underway in this regard have not yet been publicly disclosed. They include:

- *Ongoing discussions with federal and provincial colleagues regarding strategies and actions to help facilitate re-opening of borders.*
- *Discussions with numerous industry representatives regarding options for creating long-term stable slaughter capacity.*
- *Review and approval of numerous projects to facilitate the development of new meat products.*
- *Negotiation, consensus and implementation of three amendments to the CAIS program to facilitate more appropriate response to industry disasters.*
- *Ongoing discussion with industry regarding options for obtaining more timely and complete data.*
- *Ongoing discussion at the federal-provincial-territorial level and with industry regarding broader contingency planning processes and options in the event borders remain closed for any length of time.*
- *Discussions with industry to improve governance between the various sectors of the beef industry.*

Overview of the Alberta beef industry before May 2003

Summary observations

Alberta makes up the majority of the beef industry

Alberta plays a significant role in all components of the integrated Canadian and North American beef industry. The province has over 40% of the national cattle inventory, 64% of the national cattle on feed, and 72% of the national packing capacity.

Export is critical

The export markets are vital to the Alberta industry; before May 20, 2003, 16% of live cattle and 50% of the beef production were exported. The significant markets are the United States (US), Mexico, and Japan. The non-US export markets are of particular importance to the Alberta industry because lower-value offal (edible and inedible internal organs and trimmings of a slaughtered animal) makes up a large part of these markets.

Trend in industry is fewer and larger operations

In Alberta, there are approximately 24,000 cow-calf operators, 500 major feedlots, and six federally-inspected meat packers. Three of these meat packers have at least 90% of the capacity in Alberta. The trend in all components of the upstream industry before the discovery of BSE was that the number of operations was declining while those that remained were becoming larger, as they were increasing their capacity.

Significant components of the Alberta beef industry

Cattle inventory was growing prior to discovery of BSE

Alberta is the fourth largest region in the US and Canada with regard to total cattle inventory behind Texas, Kansas and Nebraska. Prior to the discovery of BSE, Alberta was also the fourth largest cattle-feeding region behind Texas, Kansas and Nebraska. From its low point in 1987 until 2002, the Alberta cattle inventory had grown by 73% and its beef cow herd had grown by 55%. Alberta's cattle on feed inventory peaked at 1.6 million head in 2000.

Cattle slaughter was growing prior to discovery of BSE

Between 1989 and 2002, Alberta's cattle slaughter grew by 81%. Alberta has approximately 72% of the entire Canadian slaughter industry. Alberta's slaughter total ranks the province as the 5th largest region in the US and Canada behind Texas, Kansas, Nebraska, and Colorado.

In 2002, Alberta had cattle farm cash receipts of $3.8 billion (50% of Canada) and 69% of the total Canadian production exported (live cattle and processed beef).

Focus in this document will be placed on the upstream cow-calf, feedlot, and packing sectors, as these are the sectors that were most affected by the discovery of BSE. The upstream cattle and beef industry is divided into three main sectors: cow-calf, feedlot, and packing. While these functions are typical, there is often a great deal of overlap between sectors, as there are many integrated operations that perform more than one function. Backgrounding lots, where animals are grown in either pasture or pens until they are ready for a full finishing diet, are also important within the industry. Culled dairy cows used for beef, as well as the downstream foodservice and retail grocery sectors also play an important role in the integrated beef industry.

Cow-calf

A cow-calf operation is where calves are born, weaned, and either kept on the cow-calf operation or sold. If kept on the cow-calf operation, growth occurs at a slower rate on a backgrounding lot or pasture until the cattle are sold to a feedlot. Alternatively, young cattle, called *feeder cattle* are sold directly to a feedlot at six to twelve months of age when they weigh between 400 and 800 pounds.

24,000 cow-calf operations in Alberta

There are over 70,000 cow-calf operations in Canada with an average size of 120 head; in Alberta, there are approximately 24,000 such operators with an average size of 146 head. Alberta alone is responsible for over 40% of the total national cattle inventory. Some operators are full-time, commercial producers while others are smaller and have more diversified income sources.

Approximately 80% of annual revenues for cow-calf operations are from the sale of calves and feeder cattle; the remainder of the revenues are from the sale of cull cows. From 1996 until the drought years of 2001 and 2002, Alberta cow-calf operators were generating positive returns and cowherds were expanding.

Feedlot

Cattle are fed in a feedlot to a weight of approximately 1,300 pounds

From the cow-calf operation or backgrounding lot, cattle are sold to a feedlot, where they are fed on a scientifically-determined grain and protein-based diet until they reach a weight of approximately 1,300 pounds. When the cattle are ready for sale to a packer, they are called *fed cattle* and are usually less than two years of age.

500 major feedlots in Alberta

There are over 3,600 feedlots in Canada with an average size of 380 head; in Alberta, there are some 500 major feedlots with an average size of 1,500 head. Alberta alone is responsible for 64% of the total national cattle on feed. Of the 500 major feedlots in Alberta, there are 208 that have greater than 1,000 head capacity. CanFax, the market analysis division of the Canadian Cattlemen's Association, has estimated the capacity for these 208 yards at 1,545,600 head per cycle. Assuming a conservative turnover rate of two times per year, this means that these 208 feedlots are capable of preparing for slaughter over 3 million head per year. There is no data available to estimate the capacity on the remainder of the feedlots. From 2000 through 2002, Alberta marketed an average of 2.5 million fed cattle per year.

Top 20 feedlots have 50% of Alberta capacity

As previously noted, the feedlots in Alberta vary greatly in size, with a small proportion of feedlots having a disproportionate capacity. In Alberta, the top 20 feedlots with over 1,000 head capacity represent 50% of the total capacity of the province while only representing 10% of the number of feedlots. It is estimated that the 20 largest lots' capacity increased by about 38,000 head or a total of 5% in 2001–2002. In 2003, the share of the top 20 was expected to increase again as the largest operators were expanding to add more capacity.

Cost of cattle make up over 70% of feedlot costs

Cattle feeding revenues are generated from the sale of finished cattle to the packers. The primary costs are the feed and the cost of the feeder cattle. The cost of the feeder cattle is typically over 70% of total costs, and the cost of feed will amount to approximately 20%. Veterinary, transportation, and administration make up the remainder of the costs.

In the five years prior to 2002, the Alberta cattle feeding sector lost an average of over $50/head. This loss is based on cash transactions using market prices for cash feeders and feed, and the sales price of fed cattle. No adjustment has been made for risk management activities or government assistance. Risk management activities typically include pre-buying or pre-pricing feeders and feed. Feedlots may also hedge fed cattle to lock in margins rather than wait for the day of sale to determine revenue.

At the beginning of 2003, the industry had reason for optimism. Profits in early 2003 were excellent, at times amounting to over $200/head.

Packing

Alberta has six federally-inspected packing plants

Cattle are sold to a meat packing plant where they are slaughtered and sold as either boxed or carcass beef to retailer and foodservice markets domestically and around the world. Livestock are slaughtered in both federally- and provincially-regulated slaughter facilities. Any meat destined for export markets or crossing provincial borders must be processed in a federally-inspected facility. Canada has 19 federally-inspected beef packing plants; four of which are responsible for 85% of Canadian slaughter. Alberta has six of the 19 federally-inspected packing plants; three (Cargill Foods, Lakeside Packers, and XL Foods Inc.) of which are responsible for at least 90% of the Alberta slaughter capacity.

Total Canadian slaughter capacity is 74,000 head per week; Alberta's capacity is 72% of that figure, approximately 52,000 head per week. Because it is cheaper to transport boxed beef than it is to transport live cattle, the Canadian beef packing industry is overwhelmingly located in Alberta and Saskatchewan, closest to the feedlot operations.

Packers' margins are low and volumes are high

In the beef packing industry, margins on each carcass are typically quite low and volumes are high. The key cost component of the packing sector is the cost of the cattle. Cattle costs comprise about 85% of total costs. Labour, transport, selling and general administration, and financing costs comprise the remaining costs.

There is no publicly-available information on individual packer revenues or profits from sale of beef. Financial information obtained for the three largest meat packers in Alberta is summarized in the section 'Profitability of Alberta-based meat packers'.

Foodservice and retail

High corporate concentration in retail sector

The downstream retail food sector in Canada is characterized by high levels of corporate concentration; five major retailers (Loblaws, Sobeys, Safeway, Metro, and A&P) control approximately 67% of the market. In most regions in Canada, there are essentially three retailers that control the market. Safeway operates only in the West, Metro operates mostly in Quebec, and A&P operates only in Ontario. The top three retailers can control up to 80% of the market.

It is estimated that beef makes up between 5% – 10% of retail store sales, depending on the type of store and its emphasis. This indicates that beef is a very important component of overall sales in the retail sector. There is no public data on the share of beef sold at foodservice establishments.

Supply and value chain of beef

Price of fed cattle only a small part of the retail price of beef

Each part of the supply and value chain is very much dependant on every other component. The challenges and conflicts that arise pertain to the relative share of the total value that each component in the chain deserves. The price of fed cattle typically only makes up a small part of the total cost relative to the final retail price of beef. This is because there are many other costs to be added by various parties throughout the chain, for example: transportation costs, producer margins, other processing costs, and wholesale margins.

Seasonality and cyclicality

Cattle industry is seasonal and cyclical

The cattle industry is highly seasonal and cyclical. Most calves are born in late winter or early spring, and cattle are placed on feed in the greatest numbers in the fall. The lowest cattle prices of the year are in late summer or early fall due to high supply and low demand. Conversely, the highest cattle prices of the year are in spring due to low supply and high demand.

The cattle industry responds slowly to a change in profitability. When profits improve, it takes three years before the improvement results in an increase in births and an increase in cattle supplies. Similarly, it can take two to three years before cattle supplies are reduced because of lower returns.

Number of operations and trends

Trend in industry is fewer and larger operations

The trend in all components of the Canada and Alberta integrated beef industry has been towards fewer and larger operations. The number of operators has been declining, but those that remain have become larger. In the past eight years, the number of cow-calf operations in Alberta has decreased by 13%. Also, the number of feedlots has declined by nearly 50% over the same period. The meat packing industry has also experienced declining numbers. In Alberta in the late 1980s, there were 10 federally-inspected packing plants. In 2003, there were only six.

It is clear that before May 2003, all three components of the industry were experiencing a reduction in the number of operations. The main reason for this reduction was economies of size. Economy of size results in a reduction in unit or per-head costs associated with higher volumes, due to the ability to allocate overhead to larger numbers of cattle. Canadians have significantly reduced their consumption of beef in the past 20 years, from an average of almost 65 pounds per person per year in the mid-1980s to an average of less than 50 pounds per person per year in the early 2000s.

Marketing

Cattle marketing

Feeder cattle markets

Alberta exports of feeder cattle are negligible

Because of the large concentration of feedlots in Alberta and the resulting demand for feeder cattle, the overwhelming portion of Alberta feeder cattle are sold in Alberta. There are only 50,000 to 75,000 feeder cattle that are exported to the US from Alberta each year. In relative terms, this amount is negligible, as it represents less than 4% of the total cattle production. In fact, until the recent severe drought in Alberta, the province was a net importer of feeder cattle.

Fed cattle markets

Alberta exports 400,000 fed cattle per year

Marketings are defined as fed cattle marketed in either Canada or the United States. Fed cattle from Alberta are exported to a variety of states but primarily to the US Northwest. From 2000 through 2002, Alberta has marketed an average of about 2.5 million fed cattle annually. Of those marketings, before 2003, about 400,000 head or 16% were exported while the remaining 2.1 million head, or 84%, were sold to Alberta meat packers.

Beef marketing

Beef exports

50% of Canada's beef production is exported, mainly to the US

Beef exports have been rising steadily since 1992. Approximately 50% of Canada's beef production is exported, with about 70% of the exports destined for the United States. However, the share of exports to the US has been declining in recent years; the US portion was 95% just ten years ago. The next largest customer is Mexico with a share of about 15% followed by Japan with 5%. About 30% of the non-US exports are lower-valued offal. Other lower-valued thin meats also comprise a major share of beef exports to non-US customers.

Canadian beef market

As indicated on page 17, Canadians have decreased their beef consumption over the last 20 years. Until 1999, lower beef prices were required to absorb the slaughtered beef. In 1999, more beef was consumed in Canada at steady to slightly higher prices. In 2001 and 2002, Canadians consumed less beef but at higher price levels.

Key indicators for price and profitability in Alberta

Cattle price determination

Prices are determined in Canada and Alberta by the North American supply and demand conditions for beef. Thus, the overall domestic and export demand for beef, together with the total supply of cattle, determine the price level at any time.

Alberta cattle prices follow US prices closely

Before the identification of BSE, the Alberta price would follow the US price because of the ability of cattle feeders to transport and sell their cattle to US packers. There was an exceptionally close relationship between US prices and

Alberta prices after adjusting for exchange and transportation.

If the Canadian dollar appreciates relative to the US dollar, the Alberta cattle price will decline. A basic rule of thumb before the discovery of BSE was that for every 1% change in the exchange rate, cattle prices in Canada would move slightly more than 1% in the opposite direction.

Another factor to consider is the cost of transportation to a packer outside of Alberta, sometimes referred to as the *spread* or *basis*. Those alternative markets primarily include the states of Washington, Colorado, Utah and Nebraska. Cattle from Alberta are also purchased by Ontario packers.

Price of feeder cattle is dependant on the price of fed cattle

The price of feeder cattle depends largely on the price or expected price of fed cattle and the price of feed. The higher the price of feed, the higher the cost of weight gain of the animal and the lower the price that the feedlots will pay for feeder cattle, and vice versa. Thus, if fed cattle prices increase, or are expected to increase, feeder cattle prices will also increase (subject to the overall supply of feeder cattle).

As with fed cattle, the US price of feeder cattle is a prime determinant together with the foreign exchange rate. If US feeder cattle prices increase due to strong US feedlot demand, Canadian feeder cattle will rise to those higher prices resulting in higher prices in Canada. The exchange rate has the same impact on feeder prices as on fed prices. That is, an appreciation of the Canadian dollar relative to the US dollar results in lower feeder prices and vice versa.

Cattle and beef pricing through the supply chain

Cattle and beef prices move together over the long-term

The continual interaction of both supply and demand forces together derives prices. The greater the cattle supply, the lower the cattle prices. At the same time, the greater cattle supplies generate greater beef supplies, which lowers the price of beef and vice versa. The key assertion therefore is that cattle and beef prices eventually move together over the long-term. In fact, over the long-term, cattle, packer, and consumer beef prices have moved together well.

Feeder cattle pricing relative to the United States

Alberta feeder cattle prices were equal to US prices

When Alberta 500-600 pound calf prices are compared to Kansas 500-600 pound calf prices (adjusted for the effects of exchange) for the period January 1998 through May 2003, prices in Alberta consistently track with those in Kansas. The average price in the two regions was literally identical; they both averaged just over $138 Cdn/cwt.

Fed cattle pricing relative to the United States

Alberta fed cattle prices follow US prices

The Alberta cattle price will almost always be equal to the US price translated at the current exchange rate less transportation costs. The price will only deviate from that reference price based on local supply and demand. For example, early in the year when cattle supplies are low, packers will be required to pay a higher price in order to pull cattle forward. Alternatively, in the fall, supplies are plentiful; therefore, packers will pay less than the difference due to cost of transportation as supplies exceed their needs.

Alberta fed cattle prices were $8 Cdn/cwt under US prices

Over the years from 1998 through 2002, the Alberta price spread in relation to the Texas Panhandle price was approximately $8 Cdn per hundredweight (cwt). In other words, in Canadian dollars, the Alberta price was about $8 per hundred pounds below the Texas price. When Alberta cattle supply volumes are high relative to Alberta packer demand, such as in the summer and fall periods, price spreads could typically increase to $10 Cdn/cwt or more. Similarly, in periods of low supply in the winter, spreads could be as low as $4 Cdn/cwt.

Wholesale pricing relative to the United States

AAA and AA are Canadian grades of beef; the US equivalents are "Choice" and "Select"

There is a very close pricing relationship between wholesale beef prices (boxed beef) sold by the meat packer in Canada and the US. In Canada, the most common grades are AAA and AA, the AAA grade being the higher quality of the two.

AAA and AA beef were priced $4.50 Cdn/cwt lower and $1.50 Cdn/cwt higher than US equivalents

The George Morris Centre compared the prices of AAA and AA Canadian boxed beef to the equivalent quality grades in the US: "Choice" and "Select" boxed beef, respectively. Although there were strong variations in price during year 2000 due to relative changes in local supply and demand, the Centre found that, on average, Canadian AAA beef was priced $4.50 Cdn/cwt lower than US Choice and Canadian AA averaged around $1.50 Cdn/cwt higher than US Select. Although this analysis was conducted using year 2000 data, it is consistent with industry norms with regard to general pricing relationships between US and Canadian quality grades.

The reason for the discount in Canadian AAA values relative to US Choice grade is because US buyers do not place the same value on the Canadian beef as they do on the US product. In other words, despite the similar quality characteristics, the US market continues to discount the equivalent Canadian product. The US Select product, on the other hand, did not command a similar market premium and the Canadian AA product was not discounted.

Alberta's preparedness for BSE

Conclusion

BSE is an animal health issue that can impact international trade and the economic viability of the beef industry, and is linked to a human health concern. Considering other possibilities, the BSE animal health issue in Alberta was not a particularly serious one. A contagious animal health disease like foot and mouth would create a greater disaster. Overall, Alberta was reasonably prepared for this animal health incident and at the time of the discovery of BSE was working to address the existing deficiencies in its disease identification systems. Alberta, Canada, and their trading partners were at minimal risk in terms of risk to human health. However, Alberta was not well prepared for the impact of an animal health incident on its agricultural economy and international trade. We recommend that AFRD complete a risk assessment that analyzes the probability and impact of major risks to the agriculture and agri-food industry in Alberta. Based on the results of the risk assessment, AFRD should develop risk mitigation and response strategies.

Background

To understand how a single case of BSE could cause tremendous economic consequences for a beef exporting country like Canada, we will summarize the international framework that addresses issues of animal health and international trade. We then discuss how Canada and Alberta prepared for the occurrence of an animal health incident before May 2003.

The three main international organizations[1] that have a role in animal health and trade are the Office International des Epizooties (OIE), the World Trade Organization (WTO), and the Free Trade Commission established under the North American Free Trade Agreement (NAFTA). Canada is a signatory to the agreements establishing the three organizations.

OIE publishes health standards related to trade

The OIE is an international organization that collects, analyzes, and disseminates scientific veterinary information. The OIE plays a role in safeguarding world trade by publishing health standards for international trade in animals and animal products. The OIE's goal is to prevent the spread of animal diseases while promoting international trade. The OIE has created science-based health standards for international trade relating to animals. For example, in its "Terrestrial Animal Health Code", the OIE recommends what nations should do regarding transport, what can be transported, and the precautionary measures to take if a country suspects an animal disease.

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[1] We have drawn from these organizations' websites for descriptions of the organizations and their activities: for OIE, http://www.oie.int/eng/en_index.htm; for WTO, http://www.wto.org/index.htm; for NAFTA, http://www.nafta-sec-alena.org/DefaultSite/home/index_e.aspx.

OIE's five BSE risk levels

BSE is a "List B" transmissible disease in the OIE's "Terrestrial Animal Health Code", meaning BSE is significantly important to public health and international animal trade. The code describes five levels of BSE risk or BSE status: BSE free, BSE provisionally free, minimal BSE risk, moderate BSE risk and high BSE risk. The OIE does not advocate closing trade to countries with a history of BSE, even high BSE risk countries. Before May 2003, Canada met the criteria for the BSE provisionally free status. According to the OIE's guidelines, this level of risk required a certain level of testing for the disease.

Canada met OIE requirements

The OIE's guidelines are revised annually. The OIE suggests that countries meet its technical and testing requirements. Before May 2003, Canada met the OIE's recommended technical and testing requirements. The OIE itself has no power to penalize a member country that does not abide by its guidelines.

WTO

The World Trade Organization (WTO) is an international organization whose goal is to help producers of goods and services, exporters, and importers conduct their business. The WTO's main functions are administering trade agreements and handling trade disputes.

WTO's SPS leaves room for judgment by countries

Amongst the WTO's trade agreements, the "Sanitary and Phytosanitary Agreement" (SPS) addresses food safety as well as animal and plant health. The SPS allows countries to set their own standards, but also says the standards and oversight regulations must be based on science. Member countries are encouraged to use the OIE's standards for matters of animal health. The WTO and OIE have agreed to work with one another to promote animal health and trade among member countries. They have agreed to share information on areas concerning animal health, international trade and provide technical advice to one another when needed. "However, WTO members may use measures which result in higher standards if there is scientific justification… And they can to some extent apply the "precautionary principle", a kind of "safety first" approach to deal with scientific uncertainty."[2]

WTO disputes can be addressed

Member states must comply with the WTO according to its agreements, including the SPS. They have to align their standards with this agreement in addition to following import and export regulations. Any disputes that may arise can be settled through an array of procedures and penalties may be assessed to offending parties.

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[2] http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm4_e.htm

NAFTA's SPS leaves room for judgment by countries

In January 1994, Canada, US, and Mexico entered into the North American Free Trade Agreement (NAFTA). NAFTA promotes free trade, eliminates trade barriers, and encourages fair competition among the three nations. If a country violates this agreement, penalties and remedies for breach can be pursued through a challenge. NAFTA's Chapter 7 covers "Agriculture and Sanitary and Phytosanitary Measures". Like the WTO, NAFTA encourages science-based standards and regulations but allows each country to establish its own measures "necessary for the protection of human, animal or plant life or health in its territory, including a measure more stringent than an international standard, guideline or recommendation".[3]

Countries react more strongly than OIE suggests when BSE identified in other countries

In this web of standards and rules, there are inherent problems. The OIE cannot enforce its own standards. The WTO encourages adherence to the OIE standards, but allows leeway for individual countries. NAFTA also allows leeway. Given the scientific uncertainties about BSE, all countries have reacted more vigorously to the identification of BSE than recommended by the OIE. All countries have responded to cases in other countries by immediately closing their borders to beef trade on the announcement of any instance of BSE. Canada has always done the same. Canada's current policy only permits importation of live cattle or beef products from countries that have been classified as "BSE free", meaning no reported cases of BSE in the last seven years.

Testing reduces the uncertainty about BSE in the national herd

The OIE's guidelines for BSE testing try to reduce the uncertainty surrounding BSE. The testing guidelines aim to quantify the probability of BSE occurrence in a national herd. Some nations seek absolute assurance of the absence of BSE in the human food chain. For example, Japan lowers BSE uncertainty by testing every animal destined for human consumption in order to portray zero risk with 100% confidence.

Successful WTO and NAFTA challenges may not offer desired remedies

If a beef exporting country believes that its trading partners have reacted too harshly to an incident of BSE, that country could file a challenge to the practice through the WTO or NAFTA. However, even if a dispute were resolved in favour of the exporting nation, the remedies might not reflect the desired outcome. The remedy decided by the WTO or NAFTA might require the importing country to pay compensation to the injured exporting country. Or, the exporting country may be given the option to establish a retaliatory tariff on any industry or product of the importing country as punishment. In these cases, the remedy would not address the underlying need to reinstate the live cattle and beef trade between the nations.

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[3] NAFTA, "Article 712: Basic Rights and Obligations", "Right to Take Sanitary and Phytosanitary Measures".

CFIA is responsible for Canada's BSE testing

As mentioned, the OIE recommends a level for testing for each country based on that country's BSE risk status. The CFIA orchestrates Canada's BSE testing. The CFIA allocates quotas for animals to be tested to each province, collects statistics of test results, and submits the national statistics to the OIE. Alberta's annual quota specifies the number of animals to be tested. The testing regime calls for higher risk animals such as downers or cattle with apparent neurological issues to be tested.

BSE samples collected from condemned cattle and cattle with neurological symptoms

In Alberta, the collection and testing of samples are split between the federal and provincial jurisdictions. The protocol for BSE testing targets higher risk animals. Slaughter facilities contribute two types of sample animals. Cattle with neurological factors such as nervousness or inability to stand are targeted for BSE testing. Cattle condemned at slaughter are also tested for BSE. Animals are condemned for conditions including pleuritis, pneumonia, emaciation, and others. In addition to slaughterhouse samples, cattle with neurological symptoms identified on-farm by veterinarians as well as random samples from rendering plants are sent for BSE testing. The provincially-inspected packing plants send their tests to AFRD's provincial test facilities in Edmonton. Federal samples are tested in one of three federal laboratories in Canada.

Federally and provincially licensed meat packing facilities

Each slaughterhouse and meat packer in Alberta decides whether it wants to be licensed federally or provincially. If the packer wants to ship meat products outside of Alberta, it must be federally licensed and inspected by the CFIA. The Regulatory Services Branch (RSB) of the Food Safety Division of the Alberta Department of Agriculture, Food and Rural Development (AFRD) licenses and inspects facilities on behalf of the province. Provincially licensed packers cannot export from the province. The inspection services provided by the federal and Alberta jurisdictions are equivalent.

Canada has had international BSE prevention for many years

From a human health consideration, Canada has followed international guidelines for controlling BSE. There are two lines of defence against BSE. First, Canada tries to keep the cattle herd free from BSE. In this regard, Canadian rules have been consistent with the US for many years. Canada has had feed bans in place since 1997 that prohibit rendered material from ruminants being fed to other ruminants. As well, Canada has not imported cattle from countries with BSE since 1994 and has not imported meat and bone meal feed since 1978.

Cattle being tested for BSE are withheld from the human food chain

Second, Canada keeps animals potentially affected by BSE out of the human food chain. Commercial slaughterhouses and meat packers, provincially- and federally-regulated, follow the same rules to protect the public from BSE. The beef from neurological test animals is held at the slaughterhouse until tests are complete. The beef from condemned cattle is destroyed immediately; the carcass is not held while BSE testing proceeds.

Federally inspected plants account for 98% of Alberta's slaughter

The CFIA collects samples from the large federally-inspected packing plants. These plants process 98% of the cattle slaughtered in Alberta. CFIA inspectors at those plants send their samples to federal facilities for BSE testing. However, the majority of cattle going to federally-inspected plants are young and healthy, so relatively few neurological or condemned samples are collected from these plants.

Provincial meat inspectors attend all slaughters in provincially regulated plants

For the provincially-regulated plants, the RSB has about 70 provincial meat inspectors to enforce Alberta's *Meat Inspection Act* and related legislation. Every time cattle or other livestock are slaughtered in a provincially-licensed facility, a provincial inspector must be present. The slaughter schedule at all provincially-licensed packers is dictated by the RSB to help ensure that an inspector is on-site for all slaughter.

TSE testing over the 2000-03 period.

Calendar Year	**CWD (i.e. cervids)**		**BSE (i.e. bovines)**	
	Anticipated Number of Tests	**Actual Number Tested**	**Target Number of Tests**	**Actual Number Tested**
2000	1,000	570	170	160
2001	1,000	2,157	250	204
2002	1,000	6,048	875	849
2003	6,000-7,000	10,042	875	948

IHC testing for TSEs takes at least a five working day turnaround

For the provincial tests before March 2003, Alberta used the immunohistochemistry laboratory test (IHC). This test works for BSE, CWD, and scrapie. While IHC is the "gold standard" test for TSEs, it is also a time and resource consuming process. It takes a minimum of five working days to prepare and evaluate a test specimen. AFRD's Food Safety Division (FSD) defined the scope for the provincial BSE testing protocol in its internal 2001 "Agreement in Principle". The agreement stipulated where the animals were to be sourced and the target number of days to process various types of samples.

FSD monitored the laboratory results and reported the results of tests to the CFIA.

BSE testing increased in 2002

A backlog for IHC tests developed in the second half of 2002. Until then, the TSE test populations were small. In 2002, the CFIA increased Canada's BSE testing protocol with the result that Alberta needed to test 875 samples. The increase in samples was required by further scientific advances regarding BSE. The new information about BSE caused the OIE to adjust its sampling volumes higher.

100% testing for CWD introduced in 2002

More importantly, in 2002 AFRD received a request from the farmed cervid industry in Alberta to test all dead farmed elk and deer in Alberta. The farmed cervid industry in Alberta was small at that time, about 50,000 elk and 10,000 deer. Initially, the value of the animals lay in antler velvet that was marketed in Korea and China. An outbreak of CWD in Saskatchewan in 2001–02 led the Alberta industry to request 100% testing as a marketing tool. Initial estimates indicated that natural mortality rates suggested a little over 100 CWD tests per month at AFRD's laboratory. Just as the new protocol was introduced in 2002, the velvet market in the orient collapsed. Alberta's producers needed to rely on the sale of cervid meat. And, the drought of 2002 made it difficult for producers to maintain their elk and deer herds, so slaughter rates rose dramatically. The demand for TSE tests in the provincial laboratory suddenly grew from 200 to 1,200 per month. The provincial laboratory was not designed to meet this quantity of tests and could not keep pace.

Priorities for TSE testing in the provincial laboratory

The provincial laboratory in Edmonton informally monitored the turnaround time for the test results. The staff knew that lower priority tests were being further and further delayed. Even priority tests periodically did not meet the protocol timetables. FSD examined optimization of throughput for their IHC tests but were constrained by the facilities available. As well, at that time the likelihood of BSE being detected was thought to be remote, so the prioritization and delays in testing were not a critical issue. In late 2002, the priority list for TSE testing was:

1. Any carcasses held for human consumption.
2. Deer and elk that were part of the CWD (chronic wasting disease) mandatory surveillance network
3. Condemned animals not entering the human food chain.

Therefore, a condemned animal to be tested for BSE was low priority because its meat had already been rejected from the human food chain.

BSE tests on the infected animal took more than three months to process

The Alberta animal that tested positive for BSE was slaughtered at a provincially regulated abattoir on January 31, 2003. The meat inspection process worked as designed, both excluding the animal from the human food chain because it was condemned as well as identifying it for BSE testing. According to FSD's protocol, the BSE test should have been completed by mid-February 2003. However, the factors described earlier in this section delayed the diagnosis in the provincial laboratory until May 16, 2003.

FSD planned to improve turnaround times by implementing TSE rapid testing

FSD's longer term solution was to acquire new testing technology. Rapid testing for TSEs was being developed and tested around the world. However, in order for these rapid tests to be used in Alberta, FSD needed approval by the CFIA. In late 2002 and early 2003 when the backlog developed in FSD's laboratories, CFIA approval had not yet been granted for rapid tests. AFRD budgeted to introduce rapid testing as early as 2002–03 fiscal year. Approval from CFIA for the rapid test came in December 2003 and FSD began operating its new BSE rapid testing facility in February 2004.

AFRD's computer system did not provide timely information

Another difficulty that AFRD had to address was the computer system on which AFRD kept its BSE test results. This system was difficult to use and only a few people at AFRD knew how to print reports or interrogate data. Because the system was difficult to use, FSD staff did not have timely statistics about turnaround times for TSE testing. This hindered staff in obtaining an accurate understanding of how far behind target the TSE tests were in the winter of 2002–03.

The CFIA responds to BSE outbreaks in Canada

Should a case of BSE appear in Canada, it is the responsibility of the federal authorities to mount an animal health response. BSE is a federally reportable disease and falls under the jurisdiction of the CFIA. As is the case for the avian influenza crisis in British Columbia or for an outbreak of foot-and-mouth disease, the CFIA takes charge.

The FADES plan supports the CFIA in cases of foreign animal disease

Part of the CFIA's mandate is to actively plan for animal health disasters. They have a nation-wide program in place to respond to outbreaks. To ensure that they have sufficient resources to combat an outbreak, the CFIA signed a Foreign Animal Disease Eradication Support (FADES) plan with every province. In 1987, Alberta signed its FADES agreement with federal authorities to assist should foreign animal disease break out in the province. FADES supports the CFIA's eradication efforts by providing provincial resources as requested by the CFIA, coordinating decision making, and ensuring consistent communication. FADES is primarily designed to deal with an infectious foreign disease outbreak such as foot-and-mouth disease, but can be applied to any animal health emergency. Sixteen provincial departments, boards, agencies were listed in the FADES plan.

A simulation in 2000 showed that FADES needed to be updated

Over the years, the FADES plan fell out of date. The CFIA kept a copy of the original agreement, but provincial organizations changed, personnel within the organizations retired or moved, and the plan was not updated. In 2000, the CFIA and Alberta ran a simulation exercise of the FADES plan in Red Deer. The exercise was attended by officials from the three NAFTA countries. The test demonstrated that the FADES plan needed to be updated. Since the exercise, the CFIA and Alberta have worked to update the FADES plan and its related contingency plans.

Alberta's brand system helped trace the BSE animal

Part of the response to a BSE or other cattle health event includes tracing the diseased animal(s) both back and forward in time. In Alberta, two jurisdictions collect data critical to tracebacks and traceforwards. The federal Canadian Cattle Identification Association introduced its ear tag system in 2001. The Alberta government is responsible for cattle branding in the province. Alberta delegated administrative authority for brand administration to the Livestock Inspection Agency in 1998. These organizations are critical in the CFIA's work to establish the origins of a BSE outbreak.

Risk analysis has been focused on farm income and animal disease issues

AFRD's core businesses include facilitating industry growth and providing safety nets in the event of disaster. Historically, AFRD has focused its risk identification and mitigation efforts on protecting industry participants from disasters such as weather related events through tools such as crop insurance and emergency financial programs. Aspects of risk assessment are also done by the Food Safety Division which analyzes the risk of various animal diseases manifesting themselves in the province.

Alberta was not prepared for the trade and economic impacts

Before and since May 2003, neither AFRD nor any other department in the provincial government has planned how it might deal with the related impacts of an animal health disaster such as BSE. Although the risk of such an event might be remote, the predictable trade and economic impacts would be high. No Alberta authority had prepared a comprehensive risk assessment for the agricultural industry as a whole or for the beef sector in particular. Alberta was not prepared in related areas such as trade, economic impact in the integrated beef industry, relations with other governments, or recovery programs. The BSE crisis is an example of how Alberta needs to prepare for a broad range of risk events.

Recommendation

The Department of Agriculture, Food and Rural Development should complete a risk assessment that analyzes the probability and impact of major risks to the agriculture and agri-food industry in Alberta. Based on the results of the risk assessment, the Department should also develop risk mitigation and response strategies.

Summary

To summarize, prior to May 2003 Canada and Alberta had prepared to combat an animal health event such as BSE. The CFIA and FSD were testing for BSE in the Alberta herd, although federal and provincial authorities assessed a remote probability to its discovery. The CFIA was prepared to eradicate any foreign animal disease that might break out in the province. The test on the BSE-positive animal was delayed by about three months due to rapidly increasing laboratory workloads in late 2002 and 2003. FSD has eliminated the laboratory delay by implementing TSE rapid tests. However, Alberta had not prepared risk assessment, mitigation, and response plans to address the economic and trade impacts should a case of BSE be detected through the testing being carried out.

Impact of the BSE discovery in May 2003

Summary observations

Impact of trade ban has been significant

The impact of the international trade ban on Canadian and Albertan farm families operating cattle farms, due to the discovery of a single case of BSE in May 2003, has been both significant and stressful. According to a Statistics Canada report, Alberta farm cash receipts from cattle for 2003 were estimated to be $2.5 billion, a drop of 34% from receipts in 2002 of $3.8 billion.

Economic implications of BSE are widespread

The economic implications for the livestock sector, meat and animal feed manufacturers, and the vast array of service sectors such as trucking and equipment suppliers that provide support to the livestock industry, are widespread. The rural businesses that rely on the farming community for their livelihood have also been adversely affected.

Cattle prices decreased, cattle supplies increased

Cattle prices in Canada decreased because of the discovery of BSE in May 2003. At the same time, the supply of cattle within Canada increased due to the closure of the borders to any export of live cattle or beef. Because of the low price of cattle and the partial opening of the borders to beef from cattle under the age of 30 months, the packers have been slaughtering at full capacity since the fall of 2003. Feedlots have reduced the number of cattle on their lots to be more in line with the demand of Canadian packers, as the export of live cattle remains banned. This leaves a huge surplus of cattle that is becoming a factor in the market. This will be a major issue until either the US border opens to live cattle or the slaughter capacity in Canada increases.

Marketing

Overview of live cattle situation immediately after May 20, 2003

Half of Canadian slaughter market was eliminated

After May 20, 2003, the export of fed and feeder cattle ceased. Therefore, all cattle were required to be sold only to domestic packers. Also, Canadian packers were not able to export beef as the US, Mexico, Japan, and all other major export markets banned both Canadian live cattle and beef. Because beef exports typically represent 50% of the packer sales, half of the market for Canadian slaughter production was essentially eliminated. Therefore, in 2003, Alberta's fed slaughter marketing total declined approximately 20% from 2002. Fed cattle prices fell from $107 Cdn/cwt immediately before the discovery of BSE to between $65 Cdn/cwt and $85 Cdn/cwt in the first weeks after the discovery of BSE.

Slaughter decreased, supply increased

Canadian packers responded to the discovery of BSE by sharply reducing slaughter levels from May 20, 2003 to mid-June 2003 to meet only the demands of the Canadian market. At the same time, supply of cattle to these packers was rapidly increasing, as there were no longer any exports of live fed cattle. Due to the smaller summer kills in 2003, 9% fewer cattle were purchased by Alberta packers in 2003 than in 2002.

Alberta slaughter levels

2004 slaughter levels in Alberta are higher than before discovery of BSE

Before May 20, 2003, slaughter levels in Alberta were between 40,000 head and 50,000 head per week. Immediately after the crisis, Alberta slaughter dropped to less than 20,000 head per week. Slaughter levels then increased, reaching their peak of 50,000 head per week in the last week of August 2003. That week coincided with the slaughter deadline of the first major assistance program (CABSERP) and the anticipated opening of the US border. During early September, slaughter numbers again dropped sharply as regulatory challenges delayed the US border opening and as CABSERP ended. Slaughter levels rose to between 40,000 head and 45,000 head during September 2003 as the US border partially re-opened. Slaughter levels were further increased as Mexico and other countries opened their borders to Canadian beef. Through most of 2004, slaughter levels have been above 50,000 head per week, about 10% or 5,000 head more than before May 2003.

Cattle and beef pricing

Feeder cattle pricing relative to the United States

Revenue losses on feeder cattle approximately $165 Cdn/head since May 20, 2003

Before the identification of BSE, there was virtually no difference between Alberta and Kansas prices in Canadian dollars. Over the period from May 20, 2003 through to the spring of 2004, Kansas prices averaged between $140 Cdn/cwt to $144 Cdn/cwt. At the same time, Alberta prices averaged just $112 Cdn/cwt. This equates to a loss of approximately $30 Cdn/cwt for Alberta feeder cattle. Assuming an average weight of 550 pounds, that results in a loss of revenue of approximately $165 Cdn/head.

Fed cattle pricing relative to the United States

As noted on page 18, Canadian beef prices closely follow US prices, adjusted for foreign exchange and transportation costs. It is important to compare the price differential between Alberta and the US after May 2003 to the price differential before May 2003 to determine the effect that the discovery of BSE has had on the various components of the industry.

Revenue losses on fed cattle approximately $360 Cdn/head since May 20, 2003

Alberta cattle producers typically expect Canadian cattle prices to be $8 Cdn/cwt less than the US market. From May 20, 2003 to the end of 2003, the price differential averaged $51 Cdn/cwt. From January 2004 to the end of May 2004, the differential has averaged $27 Cdn/cwt. If the prices in the distorted months where prices either dropped or increased severely due to outside factors are removed, the differential for the period immediately following May 20, 2003 to May 2004 averaged $37 Cdn/cwt. Compared to the differential that was obtained before May 2003 of $8 Cdn/cwt, we have concluded that the discovery of BSE has cost Alberta cattle feeders, on average, approximately $30 Cdn/cwt. Assuming an average weight of 1,200 pounds, that results in a loss of revenue of approximately $360 Cdn/head.

Wholesale pricing relative to the United States

Forgone revenue on beef approximately $60 Cdn/head

As noted on page 20, before May 20, 2003, Canadian AAA and AA boxed beef sold at approximately $4.50 Cdn/cwt lower and $1.50 Cdn/cwt higher, respectively, than their equivalents, "Choice" and "Select" beef in the US. After the partial opening of the US border in September 2003, Canadian AAA product was priced between $30 Cdn/cwt and $50 Cdn/cwt lower than "Choice", and AA product was priced as much as $20 Cdn/cwt lower than "Select". As time progressed, the discount has remained larger than before the discovery of BSE but much less than the period immediately after the US border partially re-opened. Assuming an 800 pound carcass, the average discount during the spring of 2004 of $10 Cdn/cwt would amount to a discount of approximately $80 Cdn/head. That compares to the discount before May 20, 2003 of approximately $20 Cdn/head. Based on this analysis, BSE-related discounts are costing Canadian packers over $60 Cdn/head. This represents an opportunity cost to the packers, as it is forgone revenue due the discovery of BSE.

In addition, large volumes of beef that had been produced before May 20, 2003 had to be sold within Canada following the closure of the borders. Even after production was reduced in order to match domestic market requirements, much of the carcass was impossible to market to Canadian tastes. Therefore, a greater proportion of the carcass was reduced to ground beef.

Other revenue losses

Cattle also have a by-product value often referred to as a drop credit. These by-products typically include edible and inedible offal as well as the hide. Prior to the identification of BSE in 2003, the average difference between the value of Canadian drop credits compared to the US was $30 Cdn/head. After May 20, 2003 through the end of 2003, the difference between the two values was $60 Cdn/head. However, through most of 2004, the drop credit relationship returned to the levels that they were before the discovery of BSE. That does not imply that Canadian packers have managed to gain back the lost drop credit value from the cattle. Rather, the US drop credit value declined by approximately $20 Cdn/head while Canadian drop credit values remained steady.

Cattle and beef pricing through the supply chain

Comparison of wholesale and retail prices to cattle prices

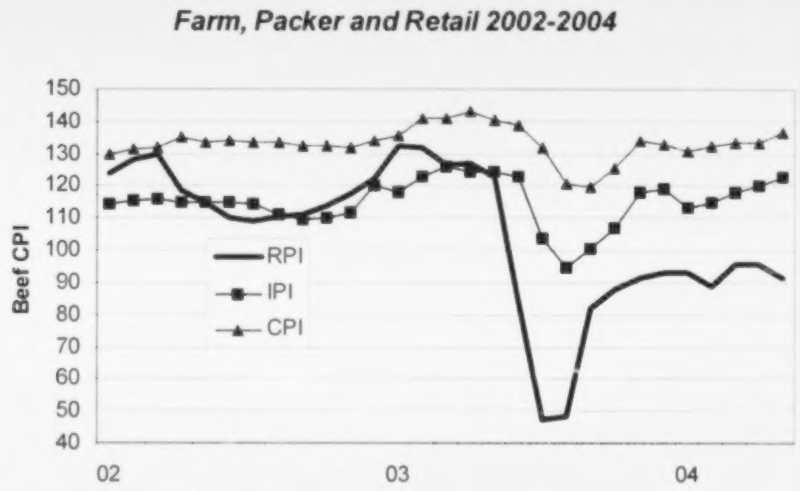
Cattle prices declined more than wholesale and retail prices

As provided by the George Morris Centre, Figure 1 shows the pricing relationships between producers (Raw Product Indicator (RPI)), packers (Industry Price Indicator (IPI)), and retailers (Consumer Price Indicator (CPI)) over the period from 2002 through the spring of 2004. As can be seen, the price indices of the three sectors of the industry continued to move well together. From May 2003 to March 2004, cattle and beef wholesale prices were 78% correlated, while beef and retail wholesale prices were 91% correlated. There was a weaker than normal relationship between retail and cattle but a large part of the difference can be explained by the major divergence in the period of May to August 2003, which was due to the major disruption in the cattle market at that time. From July through October 2003, cattle prices declined by 37% compared to the same period in 2002. By comparison, beef prices at the wholesale and retail level only fell by 6% and 4% respectively.

Cattle price only a small part of retail price of beef

The key point is that prices through the supply chain did move in the same direction but not in the same order of magnitude. The reason why wholesale and retail prices did not decrease by nearly as much as cattle prices is because, as noted on page 16, cattle prices form only a small part of the total cost or value relative to the final retail price. Also, retailers will generally not adjust prices either up or down in response to changes in cattle prices to avoid having to change them again following another price swing. Retailers will typically wait for market trends to stabilize before adjusting prices significantly.

Figure 1 Farm, Packer, and Retail Prices 2002 – 2004



RPI – Raw Product Indicator
IPI – Industry Price Indicator
CPI – Consumer Price Indicator

The wholesale and retail prices remained relatively unchanged immediately following the discovery of BSE. From mid-June 2003 to the beginning of August 2003, there was a reduction in wholesale and retail prices for lower-value cuts. For the remainder of the month of August 2003, slaughter levels increased and even exceeded the levels before May 20, 2003. However, the interruptions in the re-opening of the borders to beef caused reductions in the prices in both the wholesale and retail markets.

US border partially opened in September 2003

Since September 2003, Canadian packers have been able to sell beef from cattle aged less than 30 months to all of North America and to an increasing number of other countries. Canadian packers are able to supply retail and foodservice requirements in the US, Canada and Mexico. In response to the partially open borders, packers increased their slaughter operations to a rate of about 90% of their capacity in the fall and winter of 2003. For most of 2004, packers have been operating at 100% capacity or more. With Canada's severe oversupply of live cattle, the partially opened borders for beef were a very positive development for both cattle producers and the meat packers.

Lack of export markets for offals and thin meats

The pricing of beef by the packers is based on supply and demand levels in North America, when packers are able to market beef throughout North America. The pricing of beef in 2004 by the packers in many respects is similar to what it was before May 20, 2003. The main exception is the lack of export markets for offals, thin meats, and other products that are more highly valued in other than Canadian and US markets. Nevertheless, for the bulk of the carcass, particularly those cuts that Canadians and Americans demand, the packers' operations have not changed significantly.

Cattle prices are lower because of the surplus of live cattle; beef prices are not lower because there is no surplus of beef

The clear answer why beef prices are not lower at the retail consumer level is that there is no surplus of beef at either the retail consumer or packer level for the cuts that are popular in North America. The clear answer why cattle prices are so low is that there is a surplus of live cattle relative to packer demand (capacity). This will be the case until either the US border is open to the export of live cattle, or the domestic slaughter capacity of the packers in Canada increases to equate to the cattle supply.

After discovery of BSE, Canadians did not turn away from beef

Over the past twenty years, the trend of Canadians' per capita consumption of beef has been decreasing. One of the positive aspects of the BSE crisis is the fact that Canadians have not turned away from beef. In fact, Canadians consumed 5% more beef in 2003 than in 2002. This is unusual because in the last twenty years, the largest increase in a prior year had been 2% in the per capita consumption level.

Clearly, strong demand from Canadian consumers helped to keep the packing plants operating at rates that could not have been possible had Canadians turned away from or boycotted beef. This was particularly crucial in the summer of 2003 before the partial opening of the US border.

Cattle supplies

Cattle inventory is up in 2004

Because of the inability to export live cattle, the total inventory in Alberta has grown rapidly. Total cattle inventory in 2004 is up 400,000 head more than in the prior year. Included in this increase is an increase in beef cow numbers by 2%. While total inventories are higher, the cattle on feed totals have been declining.

Backlog of cattle estimated to be 700,000 head

Cattle on feed are those cattle that are being finished before slaughter in feedlots. Due to the border closure to live cattle, the numbers on feed in lots with over 1,000 head capacity are declining while the total cattle inventory is increasing. Most of the build-up has occurred outside the larger feedlots. This backlog in surplus cattle is becoming more of a market factor as time goes on without the border opening to live cattle.

The backlog can be measured roughly by the following:

- Western Slaughter May 2003 to May 2004: 2.4 million head
- Average Western Marketings over 52 weeks (2000–2002): 3.1 million head
- Estimated backlog of cattle: 700,000 head

Cattle over thirty months of age are a major issue

In summary, the cattle on feed in the traditional lots are down, but are fairly well-matched relative to current slaughter requirements. It is those hundreds of thousands of cattle that did not make it through the usual feeding system that are a concern. This includes cattle that are over thirty months (OTM) of age such as cull cows and bulls. The packers are not slaughtering OTM cattle because of the new requirements to segregate the OTM cattle from the cattle that are under 30 months in the processing plant. These cattle will be a major issue until the border reopens to live cattle or the slaughter capacity in Canada increases.

Backlog could be moved relatively quickly

However, to put this matter into perspective, in one week, the US slaughter is approximately 700,000 head. If the border is opened to live cattle, the backlog could be cleared relatively quickly. However, there will be logistical problems once the borders are opened to live cattle. For example, participants in the trucking industry have adjusted to the BSE crisis by either going out of business or hauling other products. It will take time to return to the previous capacities of cattle that were moving across the border.

Impacts of BSE on cow-calf, feedlot, and packer operations

Producers and operators question whether they will be able to operate in the long-term

As indicated in Appendix B, we met with a number of cow-calf producers and feedlot operators to understand how the discovery of BSE has affected their operations. Although they expressed concerns about decreased equity and increased bank borrowings for their operations, the producers and operators believed that they could continue operations in the short-term. However, about half of them expressed concerns about their ability to continue operations in the longer-term if market conditions did not return to normal. The producers and operators indicated that the banks have been very supportive of them by providing increased financing and allowing existing loan payments to be deferred. In some cases, it was necessary to provide land as increased security for their loans.

Plans to expand operations on hold

Many of the producers and operators indicated that they had hoped to expand their operations before the discovery of BSE. However, with the discovery of BSE, those plans have changed and initiatives to acquire additional land or equipment have ceased. Generally, it was indicated to us that they have been cutting costs wherever possible, for example; one operator terminated a number of employees that had been employed before the discovery of BSE.

Responses to discovery of BSE varies among producers

Comments from producers and operators on the level of current inventories of cattle compared to levels before BSE were mixed. Some of the producers we met with have held on to their cattle, not wanting to sell because of low prices. Others have reduced inventories because they are in the process of downsizing their operations due to the uncertainties arising from BSE. In one case, it was mentioned that the downsizing had begun prior to the discovery of BSE because of the drought experienced in Alberta in recent years. As well, feedlot operators indicated they have reduced their occupancy levels.

Some of the producers informed us that they are holding onto their cattle longer and bringing cattle to feedlots at higher weights than before BSE. Some producers are also limiting the amount of feed provided to cattle to slow down their weight gain and delay moving the animals to feedlots or slaughter.

In an effort to increase cash flow, producers are considering other types of revenue sources such as grain farming or off-farm employment. Operators are also making efforts to diversify their operations, for example, by increasing revenues from custom feeding.

We also reviewed the number of bankruptcies reported by Industry Canada to obtain an understanding of the extent to which the beef industry was coping financially with the BSE crisis.

Number of bankruptcies has increased in 2003 and 2004

The natural result of losses in profitability, asset values, and equity is bankruptcy. The frequency of bankruptcy filings for beef operations in Alberta has increased in 2003 and 2004. The majority of the filings and the magnitude of liabilities are from farm, ranch and feedlot bankruptcies, rather than livestock auctions and dealers. There were 18 bankruptcies from January 2004 to June 2004 and 12 in 2003.

Bankruptcies could have been much higher

It is important to note that the increase in bankruptcies cannot be linked solely to the identification of BSE; it may be due to other factors occurring in the cattle and beef industry such as drought. While the number of bankruptcies is increasing, considering the severity of the effects of the identification of BSE, the increase in bankruptcies could have been expected to be much higher.

Cow–calf operations

Cow-calf producers lost asset and equity value

Using information obtained from an internal study done by Statistics Canada, as well as a variety of other agricultural sources, Serecon Management Consulting Inc. found that cattle producers were in a reasonably strong financial position before the identification of BSE when measured by leverage or liquidity. However, the precipitous drop in cattle prices following May 20, 2003 caused a significant decline in asset and equity value in the Alberta cattle industry.

It was noted that the impact of the discovery of BSE on the large scale cow-calf operators was moderately higher than for the small-scale operators. Serecon Management Consulting Inc. estimates that revenues before BSE financial aid program support for the large-scale operators fell by 19% compared to a drop of 14% for small-scale operators.

In 2004, cattle prices are trading in the range of $100.00 Cdn/cwt, much lower than the average prices for the period January 1998 to May 2003 of $138 Cdn/cwt. If calf prices remain depressed, the really negative financial implications for the cow-calf industry are still to come. In addition, the market value for cull cow and bull sales are very much in question and will contribute to the financial deterioration throughout the remainder of 2004.

Feedlot operations

In beginning of 2004, feeder cattle margins returned to historical levels

An analysis based on data from CanFax by the George Morris Centre indicated that the cattle feeder industry was not very profitable in years prior to 2003. The industry has suffered from a number of factors including drought and high feed costs. In 2002, net margins were negative for most of the year. Based on 2001–2002 averages, slaughter cattle revenue and total costs were estimated to be $1,180 Cdn/head and $1,241 Cdn/head, respectively, generating a gross margin loss of approximately $60 Cdn/head. However, Alberta cattle feeders entered 2003 with strong positive margins of approximately $140/head. Following May 20, 2003, these margins immediately collapsed. Feeding losses from late June 2003 to late August 2003 were between $275/head and $800/head. The aggregate gross margin losses on slaughter cattle over this same period are estimated to be in the range of $278 million. In the first months of 2004, gross margin losses for feedlot operators were approximately $60 Cdn/head, similar to their historical levels.

Market has settled into a new equilibrium

For the three years prior to the discovery of BSE, prices deviated by an average of $6.75 Cdn/cwt from the average price for the year. For the weeks between June 17, 2003 and June 12, 2004, prices deviated by $17.31 Cdn/cwt. Since the end of CABSERP, or the period September 6, 2003 to June 12, 2004, variability has been in line with levels before the discovery of BSE at $5.77 Cdn/cwt. This indicates that from September 2003 to June 2004, the market has settled into a new equilibrium.

Smaller feedlots not impacted as severely as larger feedlots

Using information obtained from an internal study by Statistics Canada, as well as a variety of other agricultural sources, Serecon Management Consulting Inc. found that the small-scale feedlots that typically produce some of their own calves and have other sources of agricultural income were not impacted as severely as the large feedlots. The revenue reduction, on an annualized basis, was estimated to be 15% and 20% for small and large feedlots, respectively. The solvency ratio of the larger feedlots remains very low even after considering the benefits of the BSE financial aid programs. This has implications for the future structure of the feedlot industry. It is likely that a number of feedlots will not continue at the scale they were before May 20, 2003.

Packer operations

Packers lost revenue due to decreased volumes and lost markets for lower-value cuts

Because the export markets were closed after the discovery of BSE in May 2003, the packers immediately lost half of their market. The packers responded by operating at half-capacity, resulting in a loss of revenue until mid-June 2003 when slaughter rates increased. Furthermore, nearly all of the by-products, including the hide, edible and inedible offal, no longer had a market, as most of the demand for these by-products is the export market. Packers built their inventories of these products and they eventually made the decision to dispose of the product.

Packers have new procedures to comply with

Once the borders opened to beef from cattle aged less than 30 months, Canadian packers had to change some of their procedures to comply with Specified Risk Material (SRM) Handling Procedures as mandated by the Canadian Food Inspection Agency. The specialized procedures relate to the following:

- stunning
- head removal
- dentition examination
- head separation and removal of skull, brain, trigeminal ganglia, eyes, and tonsils
- removal of the distal ileum
- carcass splitting
- removal of spinal cord
- chilling and storage of OTM carcasses
- removal of the dorsal root ganglia
- handling of knives

- packaging and labelling
- general handling of SRM

These SRM procedures added additional costs to packer operations. A summary of the additional costs that the meat packers have been incurring since the onset of BSE has been presented in the section 'Profitability of Alberta-based meat packers'.

Alberta's BSE non-financial aid program activities

Conclusion

The BSE animal health emergency was effectively managed. The CFIA led the response in Alberta and the province assisted where requested. The resulting disruption in international trade is a matter for federal, provincial, and intergovernmental attention. This means that Alberta's efforts will often support initiatives led by the federal government. AFRD continues its programs of national and international market surveillance and advocacy on behalf of Alberta's beef industry. AFRD's Food Safety Division is enhancing its programs.

AFRD produced its strategic framework for the beef industry in April 2004, but needs to perform the actions described in the plan on a timely basis. We recommend that AFRD, working with other governments and industry, immediately develop and implement a contingency planning process so that Alberta is prepared to make difficult decisions in the fall and winter of 2004. We also recommend that AFRD, working with the CFIA and industry, ensure that Alberta meets its BSE testing quotas for 2004 and 2005.

Background

CFIA used aspects of the FADES plan for BSE

The Alberta case of BSE was officially confirmed on May 20, 2003. Because BSE is a federally-reportable disease, the CFIA leads the animal health response. Although there was still a Foreign Animal Disease Eradication Support (FADES) plan in place between the CFIA and Alberta, the CFIA did not believe that they needed extra resources and so did not activate the FADES plan. The CFIA and the province did use elements of the FADES plan such as appointing liaison officers and communicating key information to stakeholders. So, while the province did not actively perform the tracebacks or round up animals, Alberta did participate as requested by the CFIA. For example, the Livestock Identification Service brand records were important to the traceback.

CFIA handled the BSE investigation

The progress of the CFIA investigation is well documented. For example, a full report of the work done is available on the CFIA website[1]. Another view is given in documents from the Canadian Animal Health Network[2]. The CFIA invited an international panel of experts to review the process and report on the result of the CFIA's work. The panel's report is available on the CFIA website[3]. The report concludes that Canada's response to the BSE event was well handled and recommends improvements in systems.

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[1] http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/evalsume.shtml

Depopulation of herds

Because the BSE investigation was a CFIA responsibility, we have not described it in depth. However, we highlight two significant matters. First, in the course of the BSE investigation, the CFIA decided to depopulate several potential herds of origin. The depopulation totalled about 2,800 animals. This depopulation of animals was not required by the science or international guidelines related to BSE. Rather, these depopulations were done in an effort to impress trading partners, hoping that these extra measures might help to open the borders to beef and cattle trade as quickly as possible. This demonstrates the uncertainty in the BSE crisis regarding what response would be required to re-open the borders.

Canada's BSE risk status increased

Second, Canada's status in terms of BSE risk assessment changed because of the BSE incident. This was the first indigenous case identified in Canada. As a result, the CFIA has updated its BSE risk analysis according to the OIE's guidelines and has determined that Canada is now a minimal BSE risk country; the analysis is on the CFIA's website[4]. This revised BSE status is critically important because it requires Canada to increase its national testing for BSE.

Alberta supports the federal initiative to re-open border

Disruption in international trade is a matter for federal, provincial, and intergovernmental attention. Alberta responded to the border closures by networking with key national and international stakeholders and by supporting Canada's initiatives to re-open borders to beef trade. The Department of AFRD expanded its market surveillance and advocacy activities with key players in the international beef community. AFRD maintains key contacts in Ottawa, Washington, and amongst US industry groups in support of re-opening the border. They have similar contacts in other major beef trading countries.

Alberta responds to USDA comment periods

The US market is critical to Alberta's beef industry. When the US Department of Agriculture (USDA) asked for comments on the possibility of re-opening the border to limited trade, Canada prepared a response. In this first instance, Alberta decided to contribute to Canada's response. In later response periods, Alberta responded separately to emphasize the provincial position. In these later response periods, Alberta politicians and industry leaders also made personal appearances in Washington in support of Alberta and Canada's position.

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[2] http://www.aphin.ca/cap-bin/docs?lang=E?type=1
[3] http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/internate.shtml
[4] http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/minrisexece.shtml

Protectionist groups in US oppose border re-opening

Certain US interest groups strongly oppose re-opening the Canadian border. For example, the Ranchers – Cattlemen Action Legal Fund United Stockgrowers of America (R-CALF USA) is an example of an American industry group opposed to re-opening the border to live cattle trade. On April 23, 2004, amendments were made to import requirements allowing a wider range of meat and meat products to be imported into the United States. But on May 5, 2004, R-CALF USA successfully challenged the ruling in US Federal District Court. Following the court order, the USDA agreed to extend a restraining order to prevent the import of certain high-risk cuts of beef from Canada. Alberta and Canada need to continue their work to counteract such anti-trade initiatives.

US border reopens in August 2003 but a new BSE case identified

In August 2003, the border with the US re-opened for trade in boneless beef cuts from animals under thirty months of age. However, the border remained closed to bone-in cuts, cuts from animals over thirty months, and live cattle trade of all types. In November 2003, the US proposed rules to relax restrictions further, but the US's first case of BSE in December 2003 halted that initiative. Tracebacks showed that the American case of BSE came from a dairy cow born and raised in Alberta. Again, the CFIA led Canada's contribution to the BSE investigation. The second Canadian BSE investigation proceeded more quickly than the first because there were better traceback records. We note one important difference between Canada's first and second investigations. The CFIA did not depopulate Canadian herds in response to the case in December. By this time it was clear that radical depopulation would not re-open borders more quickly.

Important issues not addressed in 2003

During the summer and fall of 2003, AFRD continued to meet with representatives from the Alberta beef industry. The discussions tended to address the immediate financial emergency faced by industry participants. Longer-term questions of how to reposition the industry were postponed, in part because everyone expected or hoped the border would re-open soon. However, the number of over thirty month cattle continued to increase in Canada. Live animals cannot be shipped out of the country and Canada does not have sufficient packing capacity to slaughter this number of animals.

AFRD did not produce a plan; others did

The province was aware of these problems, engaging with industry groups and clarifying some of these issues. For example, Alberta has clearly indicated that it does not support a mass cull or 100% BSE testing. However, AFRD did not produce a plan to deal with issues until spring 2004. This allowed other groups to step in with their own proposals. The Alberta Beef Industry Council, an organization that brought together several existing beef and related groups, released a "Consolidated Beef Industry Action Plan" on the internet in February 2004. In June 2004, the Beef Industry Group held rallies throughout Alberta to generate action on BSE testing and other issues.

Alberta's strategic framework released in April 2004

In April 2004, AFRD released the province's plan for the beef industry. "Alberta Beef – Focus on the Future" is a strategic framework for repositioning the industry in the future. The plan was prepared with industry and Department involvement, facilitated by AFRD staff. The document is available on AFRD's website[5]. The document lays out a vision for the beef industry, a guiding principle, and three strategic priorities:

- market access,
- consumer confidence in the safety and quality of beef, and
- building capacity, capability and advantage within the value chain.

The three strategic priorities are supported by desired outcomes, numerous strategies, and dozens of proposed actions.

Framework does not address the OTM issue

Two issues arise from this strategic framework. First, it does not address the difficult immediate issues. For instance, regarding a possible cull of older animals and the issues related to a cull, it only says:

> "If live OTM (over thirty month) cattle movement does not occur within the next 12 months, price and slaughter capacity pressure will continue to build as the breeding herd ages and the numbers increase. … If border opening is delayed and industry restructuring is required, a task force should look at and address industry issues".[6]

Uncertainties around the OTM issue

Alberta and Canada's supply of over thirty month animals is increasing. These animals currently have little market value. One frequently discussed solution would be to cull these animals. Alberta has said that it does not support a large-scale cull. However, if the over thirty month surplus is not reduced by the fall of 2004, cow-calf operators and backgrounders will face increased feed costs in the winter of 2004–2005, potential animal health concerns, and increased financial pressure on their operations. Whether the new Canadian Agricultural Income Stabilization Program will address the producers' immediate financial concerns is uncertain.

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[5] http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/ndt8489/$file/beef_focus.pdf

[6] Ibid, p. 11.

Actions in the framework should be completed on a timely basis

The second issue with the document is that the proposed actions may run behind schedule. For example, the proposed actions are categorized as urgent, immediate, or long-term. The urgent actions should be completed within 100 days; presumably, the 100 days begin with the release of the document in April. In early July 2004, AFRD was still assigning actions to individuals, so the possibility of completing many of these actions on time is decreasing. In our opinion, this strategic framework should have been completed months earlier and many of the proposed actions should already have been completed. In addition, many of the actions will overlap with other initiatives, such as the federal plan that we discuss next.

The federal Beef Value Chain Round Table also presented a plan

At about the same time as AFRD was creating its strategic framework, the federally-led Beef Value Chain Round Table created their "Contingency Plan". There is overlap of personnel on the two groups drafting these plans and some overlap in objectives. For example, both plans deal with market access and development of slaughter capacity. Also, like the provincial plan, the federal plan does not address the immediate issues of a cull of older animals and the challenges if a cull does not take place.

Contingency planning should resolve pressing issues

We recommended earlier that AFRD prepare a risk assessment for major agricultural risks. The assessment should take a long-term view of the agricultural industry. There is also an immediate requirement to develop a process to deliver solutions to pressing cattle and beef industry issues. We do not recommend the creation of a formal plan because, by the time a plan can be prepared, circumstances will have changed in the industry and parts of the plan will be obsolete. A contingency planning process will need the flexibility to adapt quickly to circumstances.

Issues include OTM cattle and technical matters

The process should address issues that require short-term solutions. We note that over thirty month cattle are a critical subject. If governments and industry intend to maintain this population of cattle across the winter of 2004–2005, they should also consider how the industry will remain financially solvent through that period. Industry could also benefit from a strong signal about the size of the Canadian herd. If governments and industry want to manage the 2005 or 2006 calf crop, they need to make decisions and take actions quickly. Later in this section, we discuss the problems with harvesting enough BSE test samples to meet Canada's testing commitment, one of the technical issues that the contingency planning process should resolve immediately. Other technical issues include the handling of SRMs and feed meal bans.

Parameters for the contingency planning process

The contingency planning process may need to be national in scope. The issues that we discussed are common to the integrated beef industry across Canada and no single province has ownership of a solution. For example, while Alberta has the majority of meat packing facilities in Canada, it has only about 40% of the nation's cattle inventory. Within the national scope of the process, Alberta may still require input from a provincially-focused group like the task force discussed in "Alberta Beef – Focus on the Future". In order to succeed, the contingency planning process needs a coordinated government-industry approach. There are many advisory groups now active in the beef industry, but the contingency planning process should drive decisions and actions. The existing group of agricultural policy Assistant Deputy Ministers from across Canada, working with key industry organizations, may be an appropriate vehicle for making decisions and implementing national initiatives.

Leadership needed

An effective contingency planning process provides the beef industry with clear leadership on the difficult short-term decisions discussed above. Knowing who is responsible for addressing these short-term issues would be a step forward by focusing industry efforts and organizing the groups now advocating solutions.

Recommendation

The Department of Agriculture, Food and Rural Development, working with other governments and industry, should immediately develop and implement a contingency planning process.

Canada's BSE testing must increase from 3,000 to 30,000

Canada now qualifies as a minimal BSE risk nation. This means that the number of BSE tests needs to increase dramatically from the 2003 requirement of 3,000 tests. For the calendar year 2004, 8,000 tests need to be performed. However, the ultimate target for testing is 30,000 specimens in calendar 2005. Given its herd size, Alberta will need to perform about one-third of those 30,000 tests. The issue no longer appears to be the testing facilities. With the new provincial laboratory in Edmonton and rapid testing in place in the Food Safety Division (FSD), the province can test 1,000 samples a week. In addition, the federal authorities will harvest Alberta samples in their Lethbridge laboratory. The monitoring of results, both for number and timeliness of testing, has improved. FSD is developing a new computer system to monitor and report results. The issue is finding the samples to test.

Unclear how Alberta will harvest enough BSE samples

It is not now clear how the samples will be collected. The CFIA and FSD are negotiating but have not yet agreed the details of Alberta's 2004 requirement of about 2,800 samples. The requirement increases to approximately 10,000 samples in 2005. There are numerous problems in collecting samples from

10,000 higher risk animals, all of whom should be over thirty months of age. Producers are now reluctant to call a veterinarian to treat older animals that have little market value. As well, no producer wants to be the next to report a case of BSE. Veterinarians are also aware of the stigma that might attach to sending in an infected head. AFRD must work with other governments and the beef and related industries to ensure that producers and veterinarians understand the necessity of collecting these samples.

Renderers now charge for on farm pick-up

Many older animals die on a farm, so the majority of samples are expected to be sourced from the renderers who pick up dead animals for processing. However, renderers now charge producers a weight-based fee to pick up dead animals on a farm. Producers will not pay to transport a worthless animal. The government authorities are discussing programs to reimburse the renderers and veterinarians for collecting these samples, but the solution is not in place.

Not meeting quota can have significant impact

To resume international trade in cattle and beef, Canada will have to meet its BSE test quotas. If Canada does not harvest and test enough higher risk samples to meet international guidelines, it may impact how quickly the borders re-open. As well, Canada may be placed in a higher BSE risk category making it that much more difficult to market Alberta beef internationally.

Recommendation

The Department of Agriculture, Food and Rural Development, working with the federal Canadian Food Inspection Agency (CFIA) and the beef and related industries, should ensure that Alberta meets its contribution to Canada's BSE testing quota.

Some propose 100% BSE testing in Alberta

Some producers and industry organizations have suggested that Alberta's beef industry should test 100% of the animals slaughtered in the province for BSE. They believe that 100% BSE testing will re-open trade with nations like Japan where such testing is the current practice. They point to the new rapid test technology as an inexpensive, plausible method to meet the 100% target.

Reasons why AFRD does not support 100% BSE testing

AFRD has consistently rejected 100% BSE testing in Alberta and has legitimate reasons for not advocating this course of action. AFRD's most compelling arguments include:

- Testing Alberta's slaughtered animals will not likely identify cases of BSE. Alberta primarily slaughters cattle less than two years of age. These animals will not show positive BSE test results even if they have been exposed to BSE earlier in life.
- Implementing the program will significantly impact productivity in the packing plants. The major cost of 100% testing would be the impact on

production rates due to the manual process of harvesting brain tissue from the head of every slaughtered animal. Each head would require up to five minutes, thereby slowing production.

- Testing young animals will not contribute to Alberta's BSE testing requirements. Alberta's testing needs to focus on higher risk animals, not healthy animals under two years of age.
- No nation has stated that it would accept Alberta beef even if it were 100% tested for BSE. Assuming Alberta moved to 100% testing, there would still be uncertainty whether the border with any other nation in the world would immediately re-open.
- The target market for this approach is relatively small in proportion to the cost of the program. Advocates of 100% testing often point to Japan as the target market for tested beef. However, markets such as Japan, even if expanding, would not justify the increased costs to test all meat production in Alberta.

New FADES plan is being developed

AFRD's Food Safety Division (FSD) has many initiatives underway to enhance animal health and food safety in Alberta. We discussed the new FADES plan that is under development. One of the participating Alberta ministries needs to complete its FADES-specific contingency plans before the FADES agreement can be signed. In addition, the various industry groups must be encouraged to complete their own contingency plans. To date, no industry has completed a plan. Once the plans are in place and the agreement signed, the CFIA and Alberta should test these plans through simulation and practical exercises. In the future, the agreement and supporting plans need to be kept current.

FSD continues to enhance systems and processes

Other branches of FSD continue to enhance their systems and processes. The Regulatory Services Branch (RSB) has hired new staff to assess each provincially regulated abattoir annually. On each visit to an abattoir, meat inspectors perform a brief inspection of the facility before they begin their work. However, comprehensive assessments are more thorough and identify infractions that need to be addressed by the operator. The last province-wide set of assessments took place in 2000-02. RSB is also completing an improved meat inspection manual. The Livestock Identification Service is participating with the Canadian Cattle Identification Agency to improve the identification and tracking of cattle in Canada. FSD is planning to undertake further surveillance programs. FSD plans as many as ten new surveillance programs each year to focus on significant animal health and food safety risks in the food chain. The information system used to collect and report FSD's surveillance results is being upgraded in 2004.

BSE financial aid programs in Alberta

Conclusion

$402 million paid to June 4, 2004

Due to the droughts, floods, and grasshopper infestations of recent years, AFRD has experience designing and delivering emergency financial aid programs. AFRD applied their experience to designing financial aid programs that addressed perceived short-term issues in Alberta's beef industry. One program was cost shared with the federal government; the remainder were funded by AFRD. Six of these nine programs made payments by June 4, 2004 totalling more than $402 million[1]. All programs were designed in an environment of uncertainty, complexity, and financial distress for large segments of the cattle and beef industry.

Communication, alternatives, controls discussed

In this section, we describe the design, delivery, application process, and monitoring of the various BSE financial aid programs. In designing and delivering emergency programs on short notice, AFRD communicated well with other governments and the integrated beef industry. We discuss the alternative program approaches considered by AFRD before deciding on the final design. We also list the objectives that AFRD published for each of these programs and describe some of the internal controls for the processing of applications.

AFRD refined the delivery of programs

As programs were designed and delivered, AFRD refined its approach to financial aid delivery. For example, AFRD accepted federal government amendments to CABSERP's program design, whereas later AFRD chose to opt out of the federal Cull Animal Program because the federal government insisted on a slaughter requirement. Earlier programs relied on cattle slaughter as the trigger for payments, but later programs aimed for a market neutral approach. For the same reason, AFRD increasingly withheld design details such as end dates and program limits when announcing new programs. Alberta's packers initially qualified for Alberta's aid programs but were increasingly restricted from participating in later programs.

Background

AFRD's experience with emergency programs

In recent years, Alberta has suffered agricultural disasters such as drought and grasshoppers. In response, AFRD has delivered emergency financial aid to producers in each of the last four years. In doing so, AFRD developed their

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[1] This agrees with the list of recipients published on AFRD's website. The list was prepared for the period ending June 4, 2004. See http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/com8688?opendocument.

Charter Template system to design and implement emergency aid programs. As a result, AFRD has the experience and the tools to deliver short-term emergency programs quickly. The circumstances around the May 2003 BSE crisis were unique in that international trade in Canadian beef had never been interrupted before.

The discovery of BSE brought uncertainty

Industry and both levels of government were faced with uncertainty about how the BSE crisis would unfold. First, it was not clear when the borders (especially with the US) would re-open or whether the borders would re-open fully or partially. Neither was it clear how the Canadian public would react to the BSE announcement. Most countries experienced a decrease in consumption after the identification of BSE in their herd. With the bottleneck in the Canadian beef processing chain and the potential for weaker consumer demand, prices at all levels of the value chain were uncertain. Lastly, data about the supply of fed and feeder animals as well as their readiness for slaughter was incomplete. Using available data, AFRD originally estimated about 650,000 animals on feed at May 20, 2003 that should have been ready for slaughter by September.

Reaching national consensus was complicated

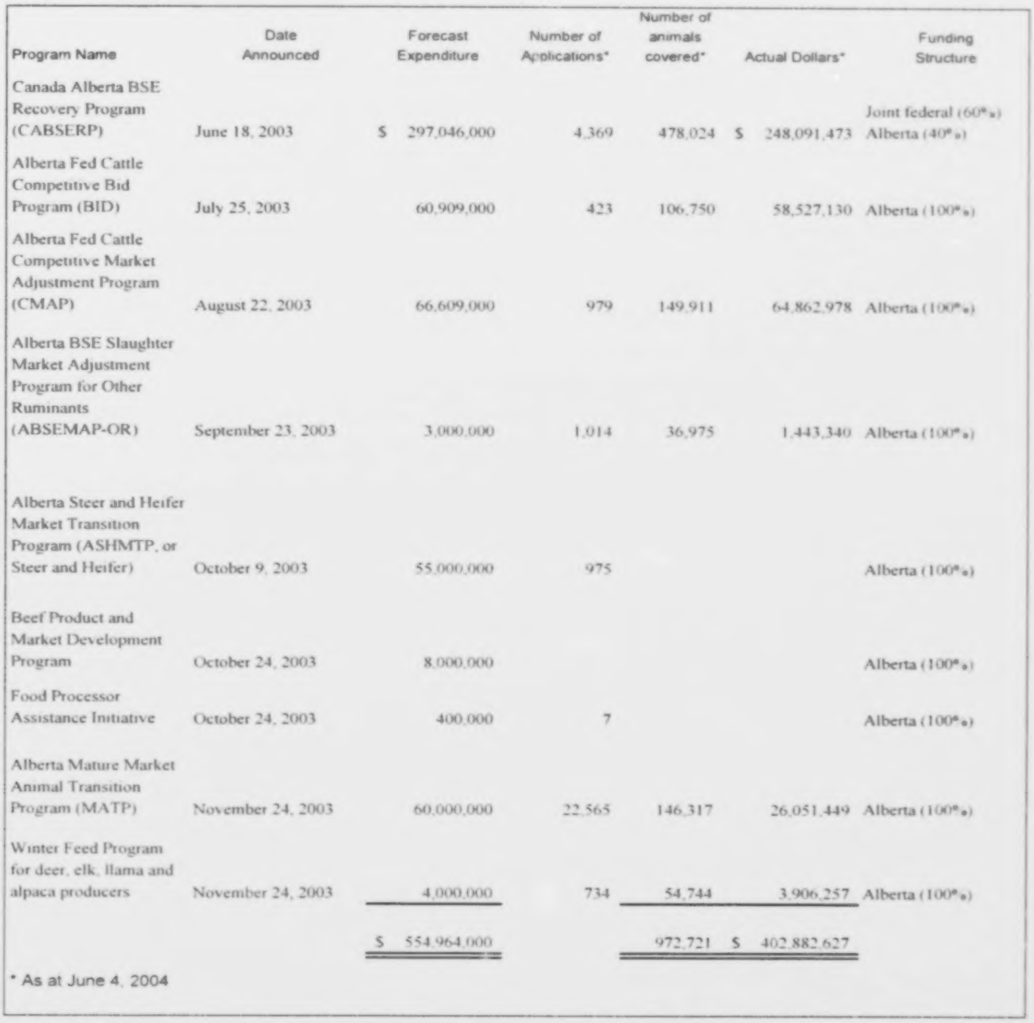
AFRD believed that Canada's response to the BSE crisis should be national in scope. This meant that any solution would need the agreement of all other federal and provincial governments. Other provinces did not necessarily share Alberta's point of view on the nature of the problems or solutions. For example, Alberta's cattle and beef industry is directed to an export market (i.e. to the rest of Canada, the US, and the world), whereas Ontario's supplies its own provincial market. Not all other governments had Alberta's capacity to fund emergency programs. Reaching consensus in the national context was a complicated process.

We focus on the programs for which Alberta paid

In response to the BSE crisis, AFRD developed financial recovery programs to support Alberta's cattle industry. Figure 1 lists the financial programs delivered by AFRD. In addition to these programs, the federal government has funded its own Cull Animal Program (announced in November 2003) and Transitional Industry Support Program (announced in March 2004). Our report focuses on the financial aid programs for which Alberta paid. Figure 2 shows slaughter volumes and average fed cattle prices for steers and heifers from the week of BSE identification through mid-July 2004 for three of the major bovine programs. The bars on the graph indicate the average actual transaction prices per week and the average level of government financial aid related to those transactions. Producers did not receive that government financial aid during the week of transaction; they applied for and received their funding later. However, the graph indicates the total notional price received for steers and heifers sent to slaughter by combining average transaction prices with the financial aid top-up.

CABSERP was the largest financial aid program

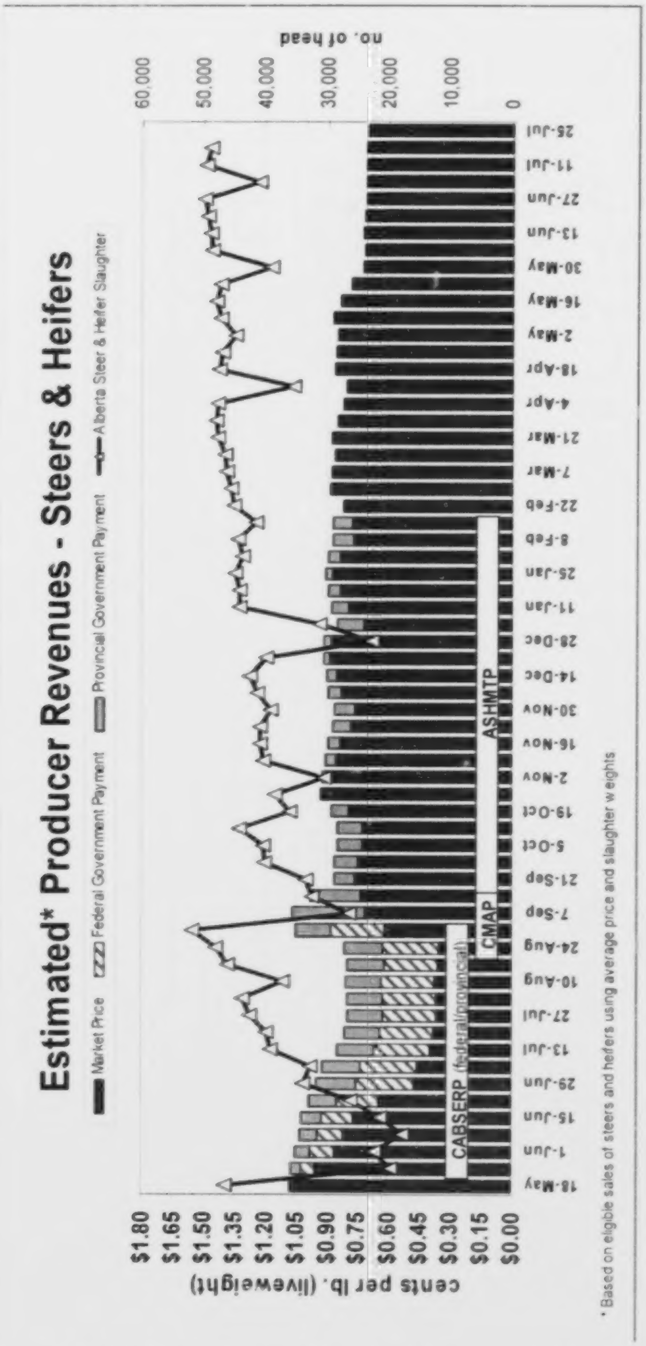
The largest of the financial aid programs was a national federal/provincial program that operated in every province. In Alberta, the governments of Canada and Alberta jointly provided funding for CABSERP. The Government of Canada contributed 60% of the program cost while the Government of Alberta contributed 40% to the total forecasted program cost of approximately $297 million in Alberta. The other programs that we discuss were funded 100% by Alberta.



Program Name	Date Announced	Forecast Expenditure	Number of Applications*	Number of animals covered*	Actual Dollars*	Funding Structure
Canada Alberta BSE Recovery Program (CABSERP)	June 18, 2003	$ 297,046,000	4,369	478,024	$ 248,091,473	Joint federal (60%) Alberta (40%)
Alberta Fed Cattle Competitive Bid Program (BID)	July 25, 2003	60,909,000	423	106,750	58,527,130	Alberta (100%)
Alberta Fed Cattle Competitive Market Adjustment Program (CMAP)	August 22, 2003	66,609,000	979	149,911	64,862,978	Alberta (100%)
Alberta BSE Slaughter Market Adjustment Program for Other Ruminants (ABSEMAP-OR)	September 23, 2003	3,000,000	1,014	36,975	1,443,340	Alberta (100%)
Alberta Steer and Heifer Market Transition Program (ASHMTP, or Steer and Heifer)	October 9, 2003	55,000,000	975			Alberta (100%)
Beef Product and Market Development Program	October 24, 2003	8,000,000				Alberta (100%)
Food Processor Assistance Initiative	October 24, 2003	400,000	7			Alberta (100%)
Alberta Mature Market Animal Transition Program (MATP)	November 24, 2003	60,000,000	22,565	146,317	26,051,449	Alberta (100%)
Winter Feed Program for deer, elk, llama and alpaca producers	November 24, 2003	4,000,000	734	54,744	3,906,257	Alberta (100%)
		$ 554,964,000		972,721	$ 402,882,627	

* As at June 4, 2004

Figure 1



* Based on eligible sales of steers and heifers using average price and slaughter weights

Source: CanFax, Canadian Beef Grading Agency, and Alberta Agriculture, Food and Rural Development

Figure 2

Program payments were in accordance with rules

AFRD published a list of cheque recipients for six of the BSE financial aid programs: CABSERP, BID, CMAP, ABSEMAP-OR, MATP, and the Alberta Winter Feed Program[2]. These are the programs for which there were major disbursements as at June 4, 2004, just before the list was released. We have audited that list and found that it is complete and accurate, and that the disbursements were made in accordance with the program rules established for those programs.

CABSERP

Design of CABSERP

Initial discussions focused on animal health issues

Even before the public announcement of the identification of the single case of BSE, AFRD staff began to discuss the potential impact of BSE on the Alberta cattle industry. Initial concerns related to animal health issues and involved tracking the infected animal, identifying other cattle that had been in contact with the infected animal, and pinpointing the cause of the disease. With the public announcement on May 20, 2003, Canada's international trade partners immediately closed their borders to Canadian cattle and beef. International border closure had never happened previously to a Canadian export industry as large as the integrated beef industry.

Production stalemate develops between feedlots and packers

Packers were faced with uncertainty as to the demand for their product given that export markets were now closed to them. As well, in other countries that have discovered BSE in their national herd, domestic demand usually declined after the confirmation announcement. Packers were unwilling to maintain previous slaughter levels. Uncertainty about the re-opening of the border exerted downward pressure on cattle prices. Lower slaughter volumes reduced the packers' demand for fed cattle and created a backlog of animals at the feedlots. Feedlots were not willing to sell their cattle to the packers at the substantially reduced prices that the packers were offering. The packers and feedlots reached a stalemate. This stalemate also reduced the demand by the feedlots for cattle from the cow-calf producers which in turn reduced the price feedlot operators were willing to pay for cattle. These demand and supply imbalances caused cattle prices to decline steeply.

Financial impact mounts

It soon became clear that the BSE crisis required a financial response from governments to assist the cattle industry. This became more apparent the longer the borders stayed closed to Canadian beef exports. At the time, AFRD estimated a $6.3 million loss by the Alberta industry in direct export sales each day the borders remained closed.

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[2] http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/fin8687

Representatives from cattle industry discuss response to stalemate

Government assistance program objectives aimed to eliminate the stalemate between packers and feedlots and reduce the estimated 650,000 cattle in feedlots on high energy feed as of May 20, 2003. The first meetings on a financial response included only representatives from AFRD. Within days, AFRD officials realized that they needed input from the cattle industry. Representatives from the cattle industry were invited to join a series of round table discussions. This group included officials from the Canadian Cattlemen's Association, Alberta Beef Producers, Alberta Cattle Feeders Association, Western Stock Growers' Association, Feeder Associations of Alberta, Alberta Milk, Livestock Identification Services, and representatives from packers and processors. At the same time, meetings were also taking place between Alberta and the federal government and between the beef industry and the federal government.

Short-term objectives because border expected to re-open soon

Participants in these discussions focused on short-term solutions as they expected the border to re-open within weeks, or at worst a few months. In retrospect, this may appear an optimistic assumption given that historically seven years is the standard time taken for borders to re-open after a country has found a case of BSE in its herd. But with an integrated beef industry in western North America, participants had expectations of a near-term US border opening. So with the shorter-term objective of removing the bottleneck in the feedlot to packer system, AFRD officials tried to restart the system.

National safety net program also under development at this time

Compounding the uncertainty about how to assist Alberta and Canada's beef industry financially, the existing government assistance programs were in evolution in the spring of 2003. The federal-provincial disaster-based safety net compensation program, called the Farm Income Disaster Program (FIDP) in Alberta, expired on March 31, 2003. In the spring of 2003, federal and provincial officials were in the process of negotiating the Agricultural Policy Framework (APF). Governments had committed to the APF, but in May and June 2003 they had not yet worked out details of the new farm safety net program.

Several alternatives considered

Alberta, other provinces, the federal government, and the beef industry considered several financial assistance program alternatives. Participants analyzed the alternatives against factors such as World Trade Organization (WTO) compliance. The governments wanted to ensure that any new programs would not generate countervailing duties. The alternatives included:

- a disaster-based assistance loan program;
- a loan guarantee program
- a safety net program similar to FIDP;
- a national surplus removal program; and

- a market-based price differential program.

Disaster-based loan program

A disaster loan program is available to producers from Alberta's Agriculture Financial Services Corporation through the Alberta Disaster Assistance Loan Program (ADALP). This program provides a low-interest loan, with the option to defer principal and interest payments for the first two years of the loan term. In order to qualify, producers need to have suffered an income and/or production loss which significantly reduced their operation's net results. However, many feedlots did not have enough owner's equity to secure a loan and the $2 million lending cap on the program was considered too small for large feedlot operators.

Loan guarantee

A loan guarantee program was also considered by AFRD. This type of program would not have put the immediate cash in the hands of producers that was required. One of the concerns with this type of program was that feedlot producers indicated that they had very little equity left against which to borrow funds.

Safety net program

Officials considered a Farm Income Disaster Program-style program. This type of program was being negotiated under the nation-wide Agricultural Policy Framework discussions that were ongoing at this time but no details had been finalized. Also, the principles of FIDP were based on income stabilization over the long-term and this would not work for a perceived short-term emergency program.

National cull of surplus animals

The national cull of surplus animals was not viewed as a practical alternative, due to the problem of limited slaughter capacity, associated disposal problems. and the impact on public perception of wasting food. Disposal of a mass number of animals would also cause environmental concerns. In this type of program, the government would have to purchase surplus cattle and remove them from the market.

Market differential payment model considered most appropriate

The alternative that fit program objectives best was based on a market differential payment to compensate producers for price fluctuations. The feedlot operators and other producers were reluctant to sell their cattle at the reduced prices the packers were offering. Therefore, AFRD decided that a market differential payment model would be the most appropriate. The government would pay the difference between the price the producers received upon selling their cattle, and the price they would have received had the border been open. A proof of sale and proof of slaughter would be required in order to receive payment.

Alberta program adopted as basis for national program

Alberta initially developed a program called the Alberta Temporary Slaughter Cattle Disaster Assistance Program (ATSCDAP). The Government of Canada initially felt that APF-based programs might handle the crisis, but realized in early June 2003 that Alberta's proposed financial assistance program should be delivered nationally. Discussions between the Government of Canada and the provinces resulted in the decision to provide a market differential slaughter-based program called CABSERP that was similar to Alberta's initial design of the ATSCDAP.

Slaughter required without regulated floor price

The proof of slaughter requirement meant that packers would be the only market for eligible cattle under the market differential slaughter-based program. AFRD concluded that a slaughter-based component to the program would help to reduce the number of cattle backlogged in the system. Also, by designing the program with a slaughter-based element, AFRD felt it had addressed one of the more significant risks surrounding the program, which was the possibility of producers inflating sales and inventory levels to increase program payments. Simply stated, an animal can only be slaughtered once, so payment can only be made once. Neither Alberta's integrated beef industry nor other governments found a regulated floor price for the sale price of fed cattle acceptable. The program allowed price discovery in the daily markets.

CABSERP adopted many of the Alberta program's features

The federal-provincial CABSERP program adopted many of the program specifications of Alberta's initial design of the program, including the calculation of the payment differentials, with an allowance built in for the historical difference between Eastern and Western Canadian prices. The national scope of the program meant that business rules for circumstances such as payment for animals slaughtered outside the province of residence had to be decided. In this case, it was determined that the payment would be made by the province in which the producer was resident for tax purposes.

The mechanism for the development of policies and resolution of conflicts was conference calls, administered by AFRD personnel, between representatives from the federal government, provinces, and territories. These calls varied in frequency, from two to three per week in June 2003 to every two weeks in April 2004.

Federal modifications to Alberta's design

The Government of Canada's modifications to Alberta's original program design and implementation plans included:

- Instituting a cap on benefits for CABSERP.
- Terminating the program if the border substantially opened for trade. This meant that partial border openings (such as international boxed beef trade only, still no trade in live animals) terminated the program.

- Limiting the wind up of the program to two weeks. Alberta felt that a smooth transition to open borders required a month for producers to slaughter animals sold under the program.
- Announcing the budgeted dollar amount for the program and the proposed program end date of August 30, 2003.

Although AFRD did not agree that these were enhancements to CABSERP, Alberta decided that they could neither undermine national consensus on the program nor pass up the federal funding.

Cost shared program: federal 60%; Alberta 40%

CABSERP was formally announced to the public on June 18, 2003. The Canada-Alberta Agreement establishing the BSE financial aid program was signed by Alberta and the Government of Canada in July 2003. This agreement established the program rules of CABSERP and outlined the cost sharing arrangements between the federal and provincial governments. The federal government paid 60 per cent of the program while the province paid 40 per cent. The following objective recognizes that AFRD intended an increase in slaughter in Alberta and expected a drop in price for fed cattle.

> *The objective of CABSERP is to provide a mechanism that stabilizes marketing of Slaughter Cattle during the period of the United States temporary border closure. Payment under this Program will provide assistance to applicants who incurred reduced Slaughter Cattle prices on, or after May 20, 2003 until the Termination of the Program.*[3]

CABSERP aimed at feedlots; others benefit through the integrated value chain

As CABSERP was focused on those animals directly affected by the border closures, AFRD determined that the cattle would have to have been on feed as of May 20, 2003. Due to the structure of the industry, any government assistance program targeted to slaughter animals will mainly impact feedlot operators. AFRD's concluded that cow-calf operators, and the rest of the industry, would experience a benefit from having the integrated value chain operational. Also, by paying a market differential to the feedlots, AFRD believed that the price to the cow-calf producers from the feedlots would remain strong.

To ensure legislative compliance for delivery of this program, AFRD obtained an Order in Council declaring a disaster. Alberta Treasury Board approved emergency funding for this and subsequent programs.

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[3] AFRD Program Policies, CABSERP

Producers bear some risk for lower prices

In designing the program, AFRD felt that producers should bear some of the risk and therefore some portion of the loss of value in their cattle inventory. A sliding deficiency pay scale achieved this result. A maximum of 90% of the market differential would be reimbursed. Also, as the differential increased, a smaller percentage of the differential would be reimbursed. See Figure 3 below.

Alberta deficiency pay scale

Reference Price	Market Price* As % of Reference	Payment Rate as a % of Market Price Decline	Payment as a % of Reference Price	Producer Return as % of Reference Price
100%	100%			100.00%
	95%	90%	4.50%	99.50%
	90%	90%	9.00%	99.00%
	85%	90%	13.50%	98.50%
	80%	90%	18.00%	98.00%
	75%	90%	22.50%	97.50%
	70%	90%	27.00%	97.00%
	65%	90%	31.50%	96.50%
	60%	90%	36.00%	96.00%
	55%	90%	40.50%	95.50%
	50%	90%	45.00%	95.00%
	45%	N/A	45.00%	90.00%
	40%	N/A	45.00%	85.00%
	35%	N/A	45.00%	80.00%
	30%	N/A	45.00%	75.00%
	25%	N/A	45.00%	70.00%
	20%	N/A	45.00%	65.00%
	15%	N/A	45.00%	60.00%
	10%	N/A	45.00%	55.00%
	5%	N/A	45.00%	50.00%
	0%	N/A	45.00%	45.00%

* Weekly Western Canadian plant average. Western Canada is defined as all provinces and territories from Manitoba west. August 1, 2003 Version.

Figure 3

Reference price was US market price adjusted

In CABSERP, the United States market price would be used for the reference price. The US market price was calculated taking an average of the 5 largest US markets, and translating that price into Canadian currency at the exchange rate in effect on that day, according to the Bank of Canada. By using this average price, AFRD believed they had calculated the most representative price possible. As well, there is a historical differential between US and Canadian markets. This difference of about five cents per pound also had to be accounted for.

Delivery of CABSERP

Charter Template model used

AFRD has delivered ad hoc disaster programs such as the Farm Income Assistance and Grasshopper Programs in recent years. AFRD has developed its "Charter Template", a high level model for designing and delivering emergency programs. The template process begins with tombstone information such as name, address, and home quarter that is similar for every agricultural recovery program. With standardized data, it becomes more efficient to produce application forms. As a result, CABSERP application forms were available on-line within days of the program announcement.

Developing policy and business rules

Defining the actual payment delivery system began with the development at the federal/provincial level of a program policy which details the program requirements. This policy was then used to generate a set of "business rules" by which each application would be evaluated. The business rules were written into a computer software program to speed the processing. This software was tested to ensure it functioned properly prior to being used on actual applications.

Compliance review and adjudication

The data on the producer's application was compared to the business rules to determine eligibility for payment. If the application was not in compliance with one or more of these rules, AFRD developed a set of procedures to adjudicate the producer's eligibility. These were known as the compliance procedures. AFRD employees adjudicated all errors identified by the software.

Payment was made to the owner or producer in charge

One of the complexities in delivering the program related to ownership of the cattle. Operators hold cattle under a variety of arrangements. For instance, in a feedlot, a single pen may contain cattle the feedlot owns outright as well as animals being custom fed that are owned by other producers. This is known as a "shared pen" arrangement. When that pen of animals is sent to slaughter, it is understood that each party has a percentage of the animals in that pen. As well, when a producer purchases cattle through a Feeder Association contract, the Association is the registered owner of those cattle. It was decided that the payment should be made to the owner, or the producer in charge of the day-to-day feed and care of the animal, if different. CABSERP payments would be divided between owners by the producer in charge.

Identifying ownership in mixed pens

Producers also enter into different ownership arrangements on different lots of cattle; for instance, purchasing some through their company, some with a relative, some with a neighbour, and all these cattle could then be in the same field. The producer would therefore submit multiple applications, listing these different animals and different payees, but increasing the risk that one animal would be included on more than one list. This risk was mitigated by the compliance procedure which examined each application for duplicate identifiers such as home quarter.

Application process

Application forms were easily accessible

Application forms were available on the AFRD website. As well, MLA's offices, Agriculture Financial Services Corporation offices, and municipal offices all had application forms available or would print applications for producers who did not have access to the Internet. Producers could also call AFRD and have an application form mailed or faxed to them.

Applications were tracked

The producer completed an application following a sale for slaughter purposes. The application, together with supporting documents such as sales invoices, could either be mailed or faxed to AFRD. The application form also required the producer to disclose their total May 20, 2003 cattle inventory. All applications were bar coded as soon as they were received, for future tracking purposes. The applications were then batched and scanned into an electronic format.

Applications were pre-verified

Once the application was scanned, it went through a manual pre-verification check. At this stage, the application was only examined to ensure that all application fields were completed and supporting documents agreed to the details provided on the application. Any missing information was requested from the producer.

Applications were examined for completeness and propriety

Once the application information had been updated on the computer system, it was compared to the program business rules for completeness and propriety. If any errors were detected, the application would be reviewed and put through the compliance process again before any payment could be made. If no errors were found, or once the errors had been cleared by compliance staff, the application was ready for payment. If the errors could not be resolved and the application did not qualify for payment, the application was cancelled and not paid.

Applications were re-verified

Once an application had passed the program compliance rules, it went through the audit procedure, which consisted of a re-verification of all changes made. Initially this was done on 100% of applications, but this changed to a statistical sample once AFRD reached sufficient comfort with the operation of the system. If any discrepancies were noted in the application at this stage, it was sent back to the compliance stage for the problem to be resolved. After the audit procedure was satisfactorily completed, the cheques were generated and mailed to producers.

Monitoring program results

AFRD monitored the impact that CABSERP had on the marketplace through:

- statistical information on market prices of both calves and slaughter cattle;
- round-table discussions with industry representatives; and
- anecdotal evidence provided by producers.

AFRD relied primarily on the same weekly data that they received prior to the identification of BSE. They did not arrange for further financial information from the major packers on profitability.

Used slaughter statistics to evaluate program

The number of animals slaughtered each week was one of the key statistics used to evaluate the program's effectiveness, as the goal of the program was to "stabilize marketing of slaughter cattle". AFRD officials believed that high slaughter numbers were directly correlated with a more stable market for slaughter cattle. The fact that the program was slaughter-based ensured that assistance was given to producers who "incurred reduced slaughter cattle prices."

AFRD was aware of drop in market price

AFRD officials were acutely aware of the 27% drop in market price of steers and heifers when the program was initially announced. CanFax provided pricing information to AFRD that was used to monitor market price conditions over the program period.

AFRD did not pay the packers' inventory incentive component

CABSERP initially contained a packers' inventory incentive component. In May and early June 2003, there was considerable uncertainty about what the demand for beef would look like with Canada as the sole market. Packers' freezers were already full so they feared that lower value animal parts such as trim would neither find a market nor be frozen for later use. CABSERP was designed with a $25 million packer incentive component to address this concern. AFRD decided early in the program not to pay the packer incentive until all producer claims had been settled. By the end of CABSERP, producer claims took a higher priority and concerns about the packers' markets disappeared. In the end, although money was available, AFRD assessed that the packers did not need this extra funding and did not pay out the inventory incentive.

Subsequent programs

The following discussion relates to Alberta's financial assistance programs announced after CABSERP, presented in chronological order. They were all funded 100% by Alberta.

Design of BSE programs after CABSERP

Same design and delivery model used for all programs

AFRD used the same program design and delivery model (including the Charter Template) for these programs that it used to deliver CABSERP. This process involved consultation with representatives from AFRD and all segments of the cattle industry.

Each of the subsequent programs was designed to meet a specific problem the cattle industry faced as a result of the decline in the market for Canadian cattle and beef due to border closures. The programs were essentially designed to be short-term solutions to address what was perceived at the time to be a temporary problem.

In addition, each of these programs was only applicable to animals owned by Alberta taxpayers (either individual or corporate).

Alberta Fed Cattle Competitive Bid Program

BID was designed to regulate supply

The first program introduced after CABSERP was the Alberta Fed Cattle Competitive Bid Program (BID). This program was introduced on July 25, 2003, and had a forecast expenditure of approximately $61,000,000. This program was designed to regulate the supply of animals in the production chain. The set aside feature addressed an identified over-supply of 100,000 cattle that was thought to be causing depressed cattle prices; see Figure 4. In addition, the animals set aside in July and August 2003 would ensure that there would not be a shortage of fed animals for slaughter in October 2003.

When CABSERP was announced with a program termination date, there was a sense of urgency on the part of producers to get their animals sold for slaughter so that they could benefit from the program. This depressed the market price of animals, as a result of a fixed demand and increased supply (moving from Supply 1 to Supply 2). At any given price, there were more cattle available. Market equilibrium (the point at which the supply and demand curves intersect) moves to a lower price per pound as the supply increases.

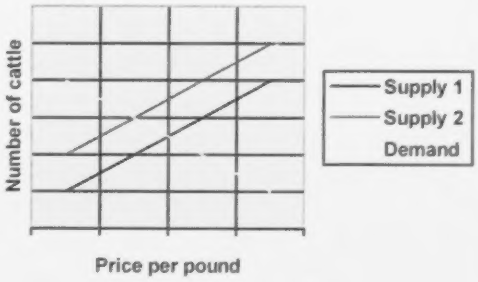

Figure 4

BID influences supply side through set aside

As AFRD had little control over the demand side of the equation, they thought that only through influencing the supply (from "Supply 2" toward "Supply 1" in Figure 4 above) could the Ministry have any positive impact on the market price of slaughter cattle. AFRD's stated purpose of the BID program was as follows:

> *To reduce the inventory of steers and heifers available for slaughter with the intent of increasing producer cash flows and market price. This will be achieved by providing incentive for producers to set aside their own fat steers and heifers or sell these animals to competitive bidders; animals sold or set aside would be removed from the value chain for at least eight weeks.*[4]

Program parameters

The animals would be branded to identify the week in which they were set aside, and thus when they could re-enter the slaughter queue. Producers could claim the greater of 10% of their May 20, 2003 inventory or 90 animals. Producers would pre-register a sale, AFRD would send out an application and then the producer would have to return the application within 48 hours of the sale. If there were no actual sale, the producer was required to weigh their animals at an approved location. In that case, the sale date was deemed to be the date the animal was weighed. In either case, the animal was required to be branded by Livestock Inspection Services (LIS) within 48 hours. Branding and either a sale or weigh-in at an approved location provided third party verification of the data contained on the producer application.

Program limitations

The payment structure for this program was similar to CABSERP in that it was a market differential payment based on a sliding scale. Producers were also required to report total May 20, 2003 inventory, less animals claimed under CABSERP, multiplied by 10%, to arrive at the total eligible animals.

Alberta Fed Cattle Competitive Market Adjustment Program

CMAP was designed to ensure free and open competition

The next program introduced was the Alberta Fed Cattle Competitive Market Adjustment Program (CMAP). This program was announced on August 22, 2003, and had a forecast expenditure of approximately $66,600,000. This program was designed to ensure free and open competition in the marketplace by requiring producers to have three separate bids in hand prior to selling their cattle. The purpose of the CMAP program was:

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[4] AFRD Program Policies, BID

> *To support the industry during transition to a new market environment through re-development of price discovery for fed cattle. This will be achieved by providing incentive for producers to sell steers and heifers to competitive bidders.*[5]

CMAP incorporated a floor price

This program was again slaughter-based, and payments were structured on a market differential basis, so in this respect the program was similar to CABSERP. However, CMAP incorporated the concept of a floor price (called the "weekly average program price"), which meant that market differentials were calculated based on the greater of the actual price received and the floor price. AFRD believed that this would be an additional incentive for producers to seek the most competitive bids, as the producer would bear the risk if the price they received was too low. Non-arms length sales[6] to packers from related parties were not included in the calculation of the floor price. AFRD thought that this would prevent the possibility of packers influencing this price, and thus the deficiency payment.

Program limitations

Producers were eligible to claim on a percentage of their remaining May 20, 2003 inventory (i.e. inventory that had not been claimed under any of the previous programs). This percentage varied from week to week as AFRD attempted to influence the supply of cattle for sale and ensure program expenditures did not exceed budget. The program also included a rule specifically governing the eligibility of packer-owned cattle (i.e. those owned by a packer's feed division). This rule was that the number of those sales which would qualify for a payment under CMAP would be limited to 15% of the previous week's kill at that packer's plant. This was done to ensure all producers had the opportunity to sell their animals for slaughter within the program period.

Program parameters

Similar to the BID program, applicants pre-registered their animals with program administration, then provided proof of sale and slaughter to AFRD once the transaction was complete. As the goal of the program was to encourage market competitiveness, sales through any acceptable competitive market instrument including auction markets, electronic auctions, packer bids, contract sales, sealed bids etc. were eligible under this program.

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[5] AFRD Program Policies, CMAP

[6] This was defined as a sale, transfer, assignment or disposition involving persons who are 'related persons' or who are not at 'arms length' as these terms are used in the Income Tax Act (Canada).

Alberta BSE Slaughter Market Adjustment Program for Other Ruminants

Program for bison, elk, deer, sheep, goats, veal

The third Alberta-only program was the Alberta BSE Slaughter Market Adjustment Program for Other Ruminants (ABSESMAP-OR). This program was announced on September 23, 2003, and had a forecast expenditure of approximately $3,000,000. This program was designed to ensure there was compensation available for producers of other animals affected by the BSE-related border closures. Those animals included bison, elk, deer, sheep, goats and veal calves. AFRD's objective for ABSESMAP-OR was:

> *To support transition and adjustment into a new market environment. To provide compensation for a portion of the producer's remaining May 20, 2003 slaughter animal inventory.*[7]

Slaughter based, market differential

ABSESMAP-OR was structured in a similar fashion to the prior programs. It was a slaughter-based program, with producers required to provide proof of sale and slaughter in order to be eligible. Payment was structured on a market differential basis similar to CMAP (i.e. there was a floor price in place), with the additional restriction of a per-head cap, which varied depending on the animal type.

Alberta Steer and Heifer Market Transition Program

No details released in an effort to make it market neutral

The fourth Alberta-only program was the Alberta Steer and Heifer Market Transition Program (ASHMTP, or Steer and Heifer). This program was announced on October 9, 2003, and had a forecast expenditure of approximately $55,000,000. However, on the date of the program announcement no details were released, including the program budget. The only information publicized at the time of announcement was that financial assistance would be available and that a registration deadline for assistance would be October 20, 2003. AFRD believed that this would make the program more market neutral, a concern following the significant price reduction in cattle prices on the day CABSERP was announced. Full program details were announced on February 20, 2004, defining sales of registered cattle through February 15, 2004 as eligible for the program. AFRD extended the February 15 deadline to March 15, 2004 to capture animals that were not processed in time due to Alberta's limited slaughter capacity.

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[7] AFRD Program Policies, ABSESMAP-OR

ASHMTP provided support for remaining May 20, 2003 fed cattle inventory

The program was intended to provide additional support for animals on feed at May 20, 2003 that were still on hand as of September 12, 2003. Industry representatives had expressed concern to AFRD that there was still a large inventory of these animals remaining in Alberta. ASHMTP's objective was:

> *To support the slaughter cattle industry while it markets the remaining May 20, 2003 fed cattle inventory. Through support to feeder cattle, increase prices for calves going into feedlots this fall.*[8]

Arm's length sale required

ASHMTP required producers to sell their animals in an open marketplace, requiring either sealed bids or contract sales under contracts in place at May 20, 2003. However, cattle owned by packers or owned by businesses, partnerships, etc. that are non-arms length[9] to packers were not eligible for compensation under the program.

Program parameters

Producers were eligible to claim on a percentage of their remaining May 20, 2003 inventory. Payments were calculated based on 60% of the difference between the program reference price (ceiling price) of 93 cents per pound and the greater of the producer's actual price and the "weekly average price" (floor price). AFRD estimated the reference price to be the break-even price during the program period. The payment scale was calculated once registration information was received to ensure the program did not exceed its budget.

Application process

In the week following the February 20, 2004 announcement of the program details, AFRD mailed applications to those producers who had registered their animals prior to the October 20, 2003 deadline. Producers completed their sales information, attached relevant invoices, and returned the application to AFRD. Sales occurring between February 20 and March 15, 2004 were paid using the weekly average price for the week ending February 15, 2004 as the floor price. Producers with animals still not sold as of March 15, 2004 were required to provide proof that these animals were on feed as of May 20, 2003, and were also required to have the animals inspected and weighed, with the weight verified by an independent third party. These producers were then paid at the average rate producers received for the week ended February 15, 2004 multiplied by the verified weight.

The combination of the CABSERP, BID, CMAP, and ASHMTP programs meant that all animals on feed at May 20, 2003 qualified for compensation.

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[8] AFRD Program Policies, ASHMTP

[9] This was defined as a sale, transfer, assignment or disposition involving persons who are 'related persons' or who are not at 'arms length' as these terms are used in the *Income Tax Act* (Canada).

subject to program restrictions such as minimum weight or packer ownership. However, as is true for all agricultural support programs, not all producers applied for compensation.

ASHMTP offered special consideration for Holstein and Wagyu

In addition to the basic Steer and Heifer program design, there was additional compensation for producers hardest hit by the US border closure. These were the producers of the Holstein and Wagyu cattle. These breeds weigh 300–400 lbs more than average steers and heifers and are marketed almost exclusively to the US. Canadian packers' infrastructure is not designed to accommodate these animals, making them more costly to process. Canadian packers were therefore only willing to take these animals at a discount below the already reduced market price. Under normal market conditions, these animals had sold at a premium above regular market price. Therefore, ASHMTP offered special consideration for these animals in the form of a small additional differential payment. This was the only time that the BSE financial aid programs offered special consideration for a specific grade or breed of cattle.

External consultants used to build systems

Steer and Heifer and MATP were the only programs for which AFRD hired external consultants to design, build, and operate its computer application. All other programs were built by AFRD staff. However, the pressure to deliver emergency programs on top of routine departmental business made external resourcing a viable delivery solution. For future emergency program development projects, AFRD should consider reducing the pressure on its own staff by relying on external resources. These might be sourced from the private sector or from other Alberta ministries if available.

Beef Product and Market Development Program

Program supports new uses of OTM beef

The Beef Product and Market Development Program was announced on October 24, 2003. The purpose of this program was to find new uses for beef in processed foods, especially beef from cattle over thirty months old which was traditionally not consumed in quantity in North America except as ground beef. The program purposes were:

> *To assist the Alberta industry process and market meat products from beef cows and over 30 month cattle by stimulating new investments, new products and new markets.*

> *To assist meat processors and other further processing companies using beef products/inputs to recover from the negative impacts of Bovine Spongiform Encephalopathy (BSE), maintain competitiveness, regain and develop new markets in a post BSE meat industry environment.*[10]

Processors submit project proposals

Food processors were required to submit a project proposal to AFRD. Proposals were to include a project overview as well as specific objectives, performance measures, and a project budget. Projects were required to help processors manage excess inventories by finding new uses for beef or by expanding existing processing capacity. In this way, AFRD hoped to increase the demand for the beef from cows over thirty months of age that could no longer be exported.

Cost sharing approach

Funds were allocated on a cost sharing basis. Once the processor completed their project, they submitted a final report including applicable invoices to AFRD. To be eligible for payment, the measures relating to project objectives were also required.

Response causes AFRD to increase the program budget

The original budget for this program was $4,000,000. However, as food processors began to submit their applications and project proposals, it became clear that this would not be sufficient. As a result, funds originally allocated to the Alberta Mature Market Animal Transition Program were transferred to this program, and the forecast expenditures are now approximately $8,000,000. This transfer was possible as the focus of the Beef Product and Market Development Program is to develop new processed beef products using beef from mature animals.

Food Processor Assistance Initiative

Smaller program for food processors

The Food Processor Assistance Initiative was also announced on October 24, 2003, and had a forecast expenditure of approximately $400,000. The program objective was:

> *To provide financial assistance to companies who normally export products into markets that have been closed due to the discovery of BSE. Payments under this program are designed to help companies resume business in export markets once they are opened, or, to divert products to the domestic market.*[11]

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[10] AFRD Program Criteria, Beef Product and Market Development

[11] AFRD Program Policy Fundamentals, Food Processor Initiative Program

The program was designed to partially offset incremental costs incurred by the processor of products manufactured on or before May 20, 2003 and specifically packaged for export only. Costs that were eligible for reimbursement included storage, transportation, offshore disposal or remarketing of processed product inventory.

Alberta Mature Market Animal Transition Program (MATP)

OTM animals left out of previous financial aid programs

Mature animals are defined as animals over thirty months of age (determined by the eruption of their 30 month molars) or cows less than thirty months of age who have given birth to a calf. These animals are regularly culled from dairy or beef cattle herds. Comments from producers and producer groups, as well as AFRD's general knowledge of the cattle industry led to the conclusion that this significant group of animals had been excluded from previous programs. The other programs had targeted animals on feed at May 20, 2003, which were animals less than 30 months of age. Mature animals are generally not sent to feedlots to be finished, but are sent directly to slaughter by the cow-calf or dairy producers to control herd size. The risk of an animal developing BSE increases once the animal reaches 30 months, which means extra precautions must be taken with the specified risk materials at the time of processing.

Federal government insisted on slaughter requirement

There were two distinct programs targeted at cull animals. As CABSERP wound down, the federal and provincial governments began to discuss a mature animal program which would follow a market differential payment model. However, the federal government insisted that producers slaughter their cull animals to receive payment. Alberta officials did not believe this was the optimal program design, as Canada's limited slaughter capacity and market for the product would not maximize benefit for producers.

Alberta developed its own program

Alberta opted out of the federal Cull Animal Program, and developed a provincial mature animal program with two options. A producer could elect an up-front per head payment, calculated based on a percentage of their registered herd. Payment would be calculated on the basis of the cow at 1,000 lbs. and bulls at 1,600 lbs. Sheep and goat producers would receive a payment based on 0.2 Animal Unit Equivalents. Alternatively, producers who marketed eligible cull animals would receive a market differential payment per pound of net live weight sold, based on the current week's deficiency payment.

The purpose of the Alberta Mature Market Animal Transition program was:

> *To re-develop market price discovery for cull cows and bulls and mature other ruminants after partial border opening. To provide an incentive to minimize on farm killing and disposal and to support transition to a restructured, domestic-focused cull animal market.*[12]

Program limits

Producers were allowed to claim a maximum of:
- 8% of eligible beef and bison animals.
- 12% of eligible sheep and goat animals.
- 16% of eligible dairy animals.
- One male for every ten cull animals. AFRD designed exemptions for all male herds (e.g. rodeo bulls) or herds with a large number of eligible males (e.g. a grazing reserve bull herd).

Eligible animal numbers were based on the producer's September 1, 2003 inventory. The rates used were deemed to be the average cull rate.

In the end, AFRD administers the federal Cull Animal Program in Alberta

AFRD did not restrict producers from applying under the parallel federal Cull Animal Program for which they might have been eligible. This was because an application under the federal program would not cost the province any additional money. Subsequent to the Alberta program's implementation, the federal government relented on its requirement that the animals be slaughtered. As a result, Alberta agreed to administer (but not pay a portion of) the federal program, using the registration information gathered for its own program. In the end, Alberta producers qualified for both the federal Cull Animal Program and MATP, and AFRD administered both programs.

Winter Feed Program

Program for deer, elk, llama, alpaca producers

Provincial officials recognized that the deer, elk, llama and alpaca producers in the province were unique in that there was no real domestic market for their products. However, these animals were also stranded in Canada by export restrictions related to the BSE crisis. Without a domestic market, the only assistance that provincial officials thought was feasible was to help defray some of the feed costs incurred by producers who would now have to winter over more animals than usual. Payments were calculated on a straight per head basis.

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[12] AFRD Program Policy Fundamentals, Alberta Mature Market Animal Transition Program.

The stated objective of the Winter Feed program was:

> *To provide a quick cash injection to deer, elk, llama and alpaca producers suffering from market disruption due to BSE. To support transition to a new deer, elk, llama and alpaca market.*[13]

Other programs

The programs we have described were the BSE programs directed at cattle, beef, or beef products. There were other programs that dealt with aspects of the BSE crisis. For example, on July 25, 2003, AFRD announced the Stranded Beef Export Container Program. This program, budgeted at $4 million, assisted exporters by "pay[ing] for the storage and demurrage costs of Canadian beef that has been rejected in transit or held in bonded warehouses in foreign markets."[14] At the 2003–04 fiscal year end, AFRD had expended approximately $1.4 million on the program. As well, existing programs were used to respond to the BSE crisis. For example, the Agriculture Financial Services Corporation increased its loan limits on certain programs to assist producers with cash flow issues.

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[13] AAFRD Program Policy Fundamentals, Winter Feed Program

[14] http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/com7114?opendocument

Analysis of the impact of BSE financial aid programs

Observations and conclusions

Generally, the goals of the BSE financial aid programs were to stabilize the markets and provide assistance to industry during transition and adjustment to a new market environment. We have concluded that the program objectives were met.

Programs were well-designed

Based on the objectives set for the BSE financial aid programs, we have concluded that the programs were generally well-designed, with the exception of certain aspects of CABSERP, especially given the uncertainties and time constraints faced by AFRD staff in designing and implementing them. The programs had clearly stated objectives and contained an incentive for producers to obtain the highest possible cash price for their cattle from processors and packers. The programs also contained controls to prevent manipulation of prices to increase deficiency payments, or claims for cattle that did not qualify under the programs. Importantly, the programs maintained cash flows for participants by covering expenses such as feed costs in the period of uncertainty. And, without the programs, financial institutions may not have been as willing to work with the producers to ease the uncertainty that the discovery of BSE created.

CABSERP increased slaughter but decreased prices

CABSERP was the first BSE financial aid program offered in Alberta. It was the largest program in dollar terms and the only federal/provincial program. CABSERP's design included flaws such as a predetermined end date, a publicly announced budget, and a short adjustment period at the end of the program. AFRD corrected these flaws in later programs. CABSERP achieved its objective of increasing slaughter volumes. However, the program put further downward pressure on cattle prices as producers rushed to sell their cattle for slaughter to take advantage of the program. No measurable targets were established for the BSE financial aid programs; thus, it is not possible to measure the extent to which the objectives were achieved. We recommend that AFRD establish measurable targets for its emergency financial assistance programs.

Effects of programs other than CABSERP difficult to measure

CABSERP, MATP, and ASHMTP shared the objective of increasing volume of slaughtered cattle, and BID and CMAP shared the goal of stabilizing prices and slaughter volumes of cattle. CABSERP was the most significant of all of the programs; thus, the impacts of that program on pricing and slaughter levels are readily observable and will be the focus of our analysis. It is much more difficult to measure the effects of the other programs because they were much lower in dollar terms and some were in effect for a greater time.

AFRD has published two documents dealing with the BSE financial aid programs. Reporting to the public about the results of these programs should be improved to provide a more complete evaluation of the impact of the programs. We recommend that AFRD improve its external accountability reporting for significant financial programs like the BSE financial aid programs.

Design of BSE financial aid programs

The design of BSE financial aid programs evolved around several design elements: requirement for slaughter within a specified time, deductible deficiency payments, and the use of US reference prices.

Mandatory slaughter

Mandatory slaughter was first required as part of CABSERP. The fourteen-day provision stemmed from standard industry practice that purchased livestock are typically slaughtered within fourteen days of purchase. Generally, the longer the mandatory slaughter period, the less direct effect the program would have had in increasing industry slaughter. In contrast, the shorter the mandatory slaughter period, the greater the price depressing effect because more strain would be placed on the slaughter capacity.

The mandatory slaughter requirement effectively prevented the incentive for movement and re-selling of cattle between producers in an attempt to earn multiple and fraudulent payments under the program.

Deductible deficiency payments

Deductible provided incentive to get highest price for cattle

All of the BSE financial aid programs covered either 90% or 60% of the price differential. The provision of less than 100% coverage of the difference between a reference and cash price provided an incentive for producers to attempt to secure the highest possible cash price from packers and limit the amount claimed under the program. Because of a 10% deductible; the realized farm income after program payments would decrease as the cash price decreased. Therefore, applicants were inclined to earn the highest possible price for their cattle.

For example: With coverage of 90% of the price differential, if the reference price were $100 and a producer sold for $60, the net payment would be $96 ($60 + 90% ($100 – $60)). Alternatively, if the producer put more effort into marketing and was able to sell for $70, the net payment would be $97 ($70 + 90% ($100 – $70)), so the producer was better off from improved marketing, regardless of the differential payment program.

Many mechanisms were used in establishing the Alberta price subtracted from the reference price to determine deficiency payments. The early programs used a weekly Alberta average price. Later programs used the greater of the producer's actual cash price and the Alberta weekly average. Still other programs used the greater of the Alberta weekly average, the actual cash price, and a pre-established floor price.

Use of floor price limited government's liability for payments

In cases where the weekly average price was the only price used, producers had no influence over the weekly average price. This is a desirable outcome from the perspective that participants could not intentionally reduce the price received to trigger greater program payments. However, by not using the greater of the actual price and the average, producers that sold cattle at a relatively high price received deficiency payments based on a lower weekly average price. The design of later programs appropriately accounted for this. The use of a cash price floor provided a means to limit liability for payments under the program.

US reference prices

US five-region price used as a reference price

All of the BSE financial aid programs used a US reference price. The price that was used was the United States Department of Agriculture (USDA) five-region direct price, translated to Canadian dollars, with a basis adjustment of $5 Cdn/cwt. The five-region price was used for a number of reasons. First, a US reference price was needed because, absent BSE, the cattle market is North American in scope. Price is largely determined in the US, with adjustments made regionally to account for local supply and demand. The five-region price was thought to be broadly representative of US market conditions. Second, the five-region price is not reliant on a single US regional market; it represents conditions in Texas/Oklahoma, Kansas, Nebraska, Colorado, and Iowa/Minnesota. As a result, any sharp movements in a single US market that could have negatively impacted program participants were mitigated by averaging across the five regions. The basis adjustment of $5 Cdn/cwt was applied based on the differential between the five-region price and the Alberta steer price between January 2003 and May 2003.

US reference price was relevant, representative, and impossible to manipulate

We considered whether the reference price was relevant, representative, and whether it could have been manipulated by participants to increase payments. We believe this price is relevant to pricing in Alberta since, absent the Canadian BSE case, Alberta cattle prices move with the US market prices. This price measures the average price for cattle purchased directly by packers from feedlots in the five regions in the US, the primary mechanism for exchange. Therefore, it is likely to be representative of US cash market conditions. Finally, since live cattle exports to the US were banned, it is clear that a program participant could not possibly alter the reference price in order to increase their payment under the program.

Effects of CABSERP on the Alberta cattle market

CABSERP affected prices and volumes

To evaluate the extent to which prices and volumes were affected by CABSERP, we reviewed weekly data on the Alberta cattle market. We compared the period immediately before May 20, 2003 with the period the program was in place, June 18, 2003 to August 30, 2003, and the period after the program ended. The key factors affected by CABSERP were Alberta cash cattle prices and slaughter volumes. AFRD expected that both of these factors would be affected by the requirement to slaughter cattle for payment under the programs.

Cattle volumes

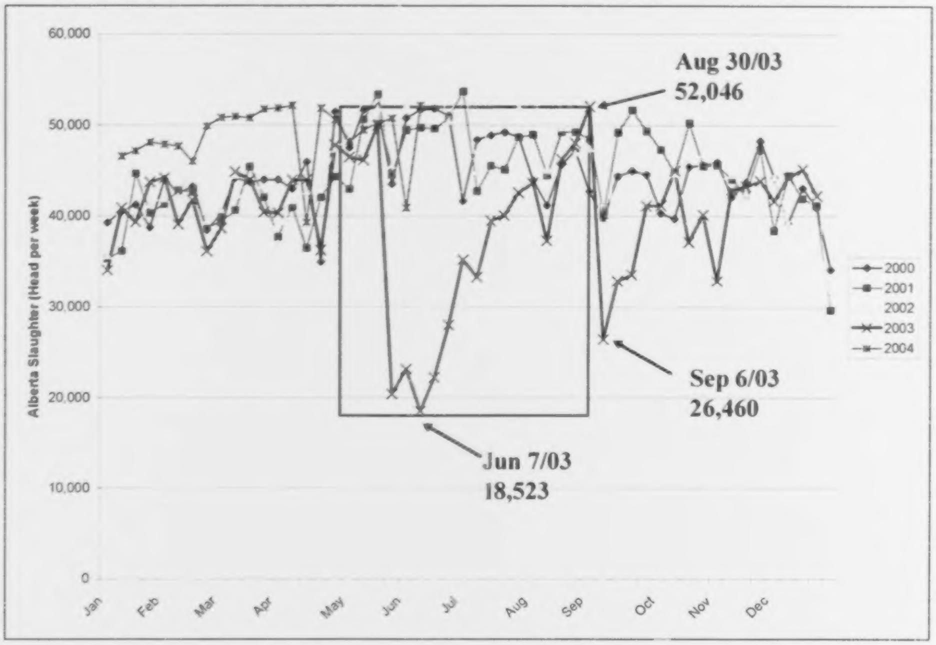
Figure 1 presents data on the Alberta weekly cattle slaughter rates. The period between May 20, 2003 and August 30, 2003 (the date that CABSERP ended) is highlighted in the figure. The figure shows the following:

- Slaughter typically peaks in the summer at approximately 50,000 head per week and declines to approximately 40,000 head per week in the late fall.
- Immediately following May 20, 2003, Alberta cattle slaughter declined to less than 20,000 head per week.
- Starting in mid-June 2003, slaughter increased steadily to over 50,000 head per week by August 30, 2003.
- Immediately after August 30, 2003 (the end of slaughter for cattle enrolled in CABSERP), slaughter decreased abruptly. The slaughter recovered to what might be considered normal levels by early October 2003.

CABSERP increased slaughter volumes

It is possible that this increase in slaughter could have been due to a number of factors in addition to CABSERP. For example, an announcement was made by the USDA on August 8, 2003 suggesting that the US border opening was imminent, which likely would have resulted in increased slaughter in any case. However, we observed that slaughter increased while the program was in place, and that the slaughter collapsed immediately after the program terminated. This suggests that CABSERP was significant in facilitating increased slaughter volume.

Figure 1 Alberta Weekly Cattle Slaughter



Source: CanFax

Cattle prices

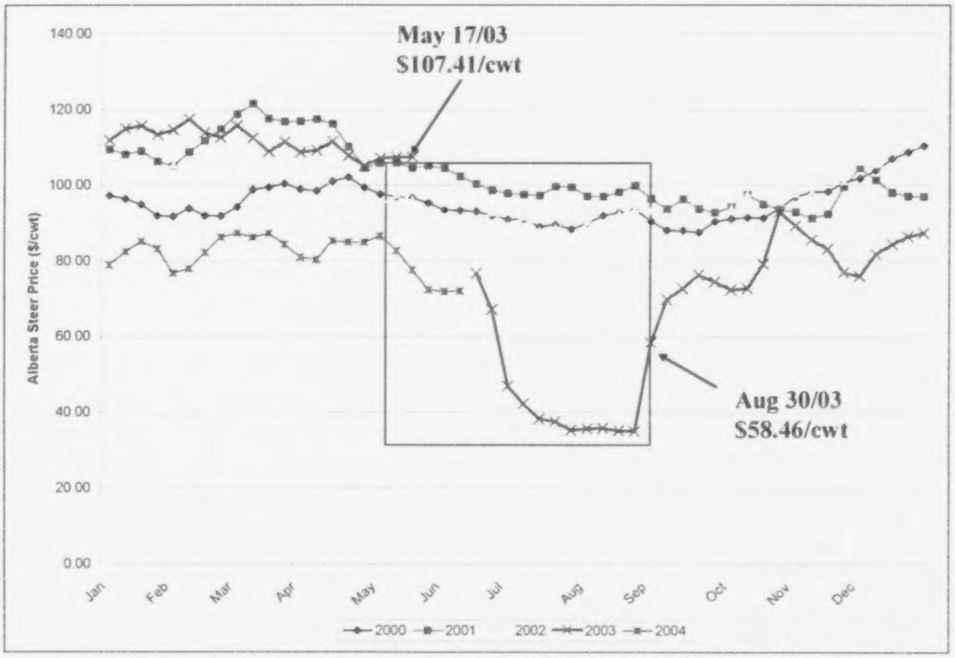
Figure 2 plots the Alberta weekly cash steer prices in the years 2000–2003, and January 2004 to June 2004. The period between May 20, 2003 and August 30, 2003 is highlighted in the figure. The figure shows the following:

- Alberta cattle prices are the strongest in the spring and early summer and then decline through the summer and early fall. As shown, 2003 started out as a relatively high-priced year; just prior to May 20, 2003, Alberta steers were trading at $107.41 Cdn/cwt.
- Immediately following May 20, 2003, prices fell dramatically. In fact, for the last two weeks in May and the first week of June, too few transactions occurred for CanFax to report Alberta prices.
- Prices fell to about $35 Cdn/cwt through late summer of 2003 before strengthening in the fall.
- In November 2003, prices briefly strengthened, only to decline somewhat thereafter.

CABSERP decreased cattle prices

CABSERP came into effect on June 18, 2003. At that time, Alberta cattle were selling for approximately $75 Cdn/cwt. During CABSERP, cattle prices dropped to $35 Cdn/cwt and then rebounded to almost $60 Cdn/cwt by the time CABSERP ended. Figure 2 suggests that the sharp decline in cattle prices started before the introduction of CABSERP; thus, it could be argued that cattle prices would have fallen regardless of CABSERP. However, the final week that CABSERP was in place, and in the weeks following it, cattle prices increased significantly, eventually reaching what appeared to be normal levels for a brief time. Thus, it is reasonable to conclude that CABSERP placed downward pressure on prices due to the increased supply for slaughter that the program created.

Figure 2 Alberta Weekly Steer Prices



Source: CanFax

Packers increased slaughter because of low cattle prices

Due to the lack of an export market following May 2003, beef inventories in storage rose dramatically. Under normal conditions, this would have been a signal to reduce the slaughter, as the price of wholesale beef cuts would typically be expected to fall and packer margins would decrease. In the summer of 2003, slaughter increased dramatically after slumping in early June 2003, even though cold storage inventory was growing. This shows that packers were willing to increase slaughter because cattle prices fell to very low levels. Also, feedlots were likely willing to sell at these low prices because of the CABSERP program payments.

As indicated on page 39, aggregate gross margin losses on cattle slaughtered from late June 2003 to late August 2003 were estimated at $278 million. CABSERP returned over $248 million to the producers and operators who slaughtered animals during this period.

Figures 1 and 2 highlight that while CABSERP was in effect, slaughter volume increased markedly, from just over 20,000 head per week to just over 50,000 head per week. At the same time, cattle prices decreased from about $75 Cdn/cwt to $35 Cdn/cwt, and then rebounded in the last week of the program to $58 Cdn/cwt. There were other factors in the beef market at the time, notably expectations about the US border re-opening, which may have also influenced these outcomes.

Incentives implicit in BSE financial aid programs

Incentives under CABSERP

The objective of the program was to stabilize the marketing of slaughter cattle following the US border closure. This can be interpreted as returning cattle marketings to the levels previous to May 20, 2003. The design of the program was to cover the difference between reference prices relative to Alberta cash prices.

Deductible had no behavioural effect under CABSERP

In the CABSERP design, a provincial average price was used to calculate the deductible rather than an actual transaction price. While it was always in the best interest of the producer to obtain the highest price for his cattle, because the deductible was based on an average, which could not be influenced by the producer, the deductible had no behavioural effect on the producer.

Incentives under BID

In contrast to the CABSERP program, which was designed to facilitate cattle marketings through price supports, the purpose of the BID program was to withhold cattle from the slaughter supply and provide price support. Under BID, the condition for program payment was deferral of slaughter for eight weeks. This condition was put in place due to the concern that a relative shortage of market weight cattle might exist in October 2003 due to the slaughter activity brought on by CABSERP. There was an explicit link to May 20, 2003 cattle inventories that effectively limited a producer's capability to buy and resell cattle purely to trigger program payments.

The analysis of incentives under the price differentials is identical for BID and CABSERP. As with CABSERP, there was the equivalent of a 10% deductible on the price differential. This program permitted producers to lock in a deficiency payment when they registered for the program.

Incentives under CMAP

Deductible motivated producers to obtain highest price under CMAP

Many of the incentives under CMAP were similar to those under CABSERP. As with CABSERP, cattle had to be slaughtered to receive payment. This prevented multiple payments being issued for the same cattle. Participants were motivated to supply slaughter cattle because the program provided funding to defray costs. However, compared to CABSERP, it is significant that instead of provincial average prices, the higher of actual transaction prices and provincial average prices were used in calculating differential payments. Thus, an individual producer was more motivated to obtain a higher cash price. This incentive was reinforced by the requirement to obtain multiple bids from cattle buyers.

The program was limited to the inventory of cattle on feed as of May 20, 2003. This effectively prevented any incentive to opportunistically purchase cattle to enrol them in the program.

Incentives under MATP

Deductible motivated producers to obtain highest price under MATP

MATP allowed producers a choice between receiving a direct payment or a price differential payment, conditional upon slaughter. Consultations with AFRD suggest that about 80% of participants elected to take the deficiency payment. As with CMAP, the Alberta cash price used in calculating a payment was the higher of the actual transaction price and the Alberta average price. This created an incentive for producers to get the highest possible cash price. The cap on claims proportional to herd size served both as a disincentive to purchase cattle for the purposes of receiving payments and as a means to control the payments under the program.

Incentives under ASHMTP

Incentives under ASHMTP similar to CMAP and MATP

The incentive structures under ASHMTP were similar to those under CMAP and MATP, in terms of the use of both actual transaction prices and an average Alberta cash price and the application of a deductible provision to payments. In addition, the payments were made retroactive to prior cattle marketings. No details of program parameters were released until after the target marketing period. As a result, no possibility existed for producers to respond strategically in an attempt to increase program payments.

Incentives related to packer ownership of livestock

Among the design features common among the BSE financial aid programs other than CABSERP was the limitation on packer-owned cattle. The concern was that packers could respond strategically to the BSE financial aid programs by artificially lowering the transfer price at which they moved cattle from their feedlots into packing plants in order to trigger program payments. Several design measures worked to prevent this from happening:

- Using market average prices rather than transaction prices reduced the extent to which any single buyer or seller could intentionally alter the price to trigger a payment;
- Exclusion of transfer prices for packer-owned livestock from the average price calculation;
- Using the greater of the transaction price and the market average price in determining program payments;
- Prohibiting non-arm's length transactions from benefiting under the program; and
- Limiting eligibility for packer-owned livestock to a specific percentage of May 20, 2003 inventory.

BSE financial aid programs and the CAIS program

CAIS uses production margins to determine support

The Canadian Agricultural Income Stabilization (CAIS) program has been introduced to address income losses on a whole-farm basis. All of the BSE financial aid programs, including the CAIS program, were being devised at the same time, in a period of great uncertainty. CAIS uses a measure of revenues less variable costs (called production margin) to determine support. If realized production margin in a given year decreases relative to a reference production margin, a claim can be made for the difference. The financing of this difference is shared between the producer and government in proportions that vary according to the level of loss. Producers participating in CAIS must make deposits into accounts from which withdrawals to fund CAIS payments are drawn.

Methodology used to value inventories is still being finalized

There are two significant issues with respect to CAIS. First, the production margin used under CAIS is an accrual measure. This is significant given BSE because the specific methodology used to value inventories is still being finalized. If the inventory valuation methodology applied is such that beginning year prices are used to value inventories for 2003, with changes in physical inventory valued under the beginning of the year price, it will give producers a much higher production margin (and smaller claim) than if end of the year prices are applied to value the physical change in inventory. The specific methodology that will be used is still under review.

Cannot receive payment for loss under both BSE programs and CAIS

Second, payments from other BSE financial aid programs will be treated as eligible revenue under CAIS. As a result, producers cannot receive payment for loss once under BSE financial aid programs and then again under CAIS. It also presents the potential for producers to recoup the loss of the deductible under the BSE financial aid programs through CAIS. Suppose a feedlot had a reference production margin of $500,000, and that before BSE financial aid program payments, the 2003 production margin was $200,000. And, with deductibles and caps, the BSE financial aid programs paid out $250,000 to the feedlot. After BSE financial aid program payments have been added back as eligible revenue, the production margin would be $450,000. The remaining $50,000 in loss relative to reference margin that results from deductibles and caps would be covered by the CAIS program. Financing of the CAIS payment would be split between the producer and government. Thus, CAIS would pick up some of the loss remaining from the deductible component of the BSE financial aid programs.

CAIS is a whole-farm program

CAIS is a whole-farm program. The implication is that for a farm with multiple enterprises, such as feedlot and grain, increases in profitability in one enterprise will offset losses in the other. The result is that CAIS will not cover all of the losses to the feedlot enterprise in 2003 if the cash grain enterprise experienced an exceptionally good year.

Evaluation of the programs

CABSERP achieved its objective of increased slaughter volumes

All of the programs are inherently difficult to measure against their objectives because no measurable targets were set by AFRD when the BSE financial aid programs were established. And, it is especially difficult to evaluate the programs other than CABSERP because they were much lower in dollar terms and some were in effect much longer than CABSERP. The data available indicates that when CABSERP was operating, the slaughter rates increased significantly, and when CABSERP ended, the slaughter rates decreased dramatically. Therefore, CABSERP achieved its intended effect. However, CABSERP significantly decreased cattle prices for most of the term of the program and increased the cost of the program.

The effect of CABSERP on cattle prices increased the cost of the program

By requiring slaughter for payment, CABSERP got the system moving again and kept the Alberta cattle industry in a good state of preparedness for the US border re-opening. Slaughter weights were close to normal, slaughter levels were very high, and upstream placements and breeding activity was encouraged. However, with the benefit of hindsight, having the industry in a high state of preparedness has not been totally warranted, because the US border has not opened to live cattle. Because of the effect on Alberta cattle prices between June 18, 2003 and August 30, 2003 and the resulting increase in the cost of deficiency payments, this effort came at additional cost to the government.

In contrast, had slaughter not been required, the industry would not have been at the same level of readiness. In all likelihood, slaughter levels would have been much lower (at least before August 30, 2003), and placement activity would have slowed. The industry would probably have been dealing with a backlog of heavy-weight slaughter cattle. However, the cattle price would not have decreased to the same extent, and the cost of CABSERP would have been lower.

It is unlikely that a program could be designed that would increase slaughter volumes but not have an impact on prices. A program could have been designed that simply reimbursed participants for a portion of their operating costs in the unstable period after the discovery of BSE. This would have essentially provided the participants a means to carry on operations and given the market time to correct itself. Such a program would likely not have impacted slaughter volumes and prices to the same extent as CABSERP did. However, because of the reduced slaughter volumes, there would likely have been a need for increased slaughter in the fall of 2003 with a resulting decrease in prices in that period.

Alternatively, the government could have introduced a floor price into the CABSERP program to prevent prices falling to an unreasonable level. We understand that this was raised by AFRD with participants in the beef industry but ultimately rejected by participants.

Alberta government's accountability for BSE financial aid programs

Government is accountable to the public

Accountability is the responsibility for the consequences of our actions. For a government to be accountable for its expenditure of public money, an accountability system requires the responsible party to report and evaluate results for external stakeholders.

Measurable goals are useful

Quantifiable measures can be used by management to determine whether a program is on track or whether the design and delivery of a program should be adjusted to achieve its original objectives. Measurable goals and targets help to establish the size and scope of a new program. Expected price and slaughter rates help management to make better estimates of program costs. Measures also help management to evaluate the effectiveness of programs against plan.

When actual experience diverges from anticipated results, management has a comparator that flags the program's progress for evaluation.

No measurable targets were set for BSE programs

AFRD did not establish measurable targets for the BSE financial aid programs. For example, AFRD did not establish expected rates of slaughter increase or a target weekly slaughter rate at which CABSERP would be viewed a success. Similarly, AFRD did not quantify the expected price drop in fed cattle.

Recommendation

The Department of Agriculture, Food and Rural Development should establish measurable targets for its emergency financial assistance programs.

Department consulted with appropriate parties

The Department did a good job consulting with the beef industry and informing the industry about decisions. By industry, we mean the established associations such as the Alberta Beef Producers and those stakeholders on the committees that the governments have set up to represent the industry. Regular meetings were held between Department officials and industry representatives to review current economic indicators and financial assistance programs. Communication at these meetings was two-way. Department officials also got a sense of how different industry sectors felt about the financial compensations programs. The Minister and key staff have also appeared and made statements at numerous agricultural meetings around the province.

The Ministry has published two public documents dealing with the BSE financial aid programs:

- "Review of Pricing in the Beef Industry", released in March 2004, and
- The list of BSE Compensation Program Payments from June 25, 2003 to June 4, 2004, released in June 2004.

The "Review of Pricing in the Beef Industry"[1] provided the Department's conclusions on the following matters:

- Impact of BSE on pricing of fed cattle;
- Impact on packer margins;
- Review of pricing in the retail sector;
- Impact of BSE on prices in the cow calf sector.

The list of BSE Compensation Program Payments from June 25, 2003 to June 4, 2004[2] accounts for the public money disbursed under the BSE compensations programs.

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[1] http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/sis8254?opendocument
[2] http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/fin8687?opendocument

Reports not timely

For Albertans who are not part of the beef industry, these two documents are essentially the only information (other than press releases and interviews) from AFRD about the results of the BSE financial aid programs. These reports are not timely. Questions first arose in the summer and fall of 2003 about the BSE financial aid programs and these reports appeared more than six months later.

No complete evaluation of impact of these programs

To produce the "Review", AFRD staff interviewed the meat packers but generally used publicly available information to assess claims of excessive packer profitability. This is a deficiency in assessing whether there were unintended negative impacts from the financial aid programs. From our own work, we have found that publicly available information is inadequate for analyzing the packers' results. As a result, the "Review" does not provide a complete or adequate evaluation of the impact of these programs.

Recommendation

The Department of Agriculture, Food and Rural Development should improve its external accountability reporting.

Field auditing not timely

Regarding the list of program payments, AFRD should by this time be able to assure taxpayers that payments have been fully examined and are correct. However, field auditing of these claims did not begin until May 2004. Field auditing ensures that the underlying assertions by the program claimants are accurate and complete. In the case of BSE financial aid programs, this means confirming that the cattle for which the producer submitted a claim actually existed, belonged to the producer, etc. Field auditing is a common requirement when claimants submit information in support of either funding or payment. While the review of applications at AFRD can detect some inaccurate claims, field auditing is required to ensure the validity of disbursements. Field auditing also serves as a deterrent to those who might take advantage of the system.

Profitability of Alberta-based meat packers

Conclusion

I have prepared this section to answer the question: "Who actually got the BSE assistance money?" The answer is that the owners of the cattle eligible for the compensation programs received the BSE assistance money.

The public and the media, in Alberta and across Canada, have asked for specific information on the profitability of the meat packing industry in Canada after May 20, 2003, the day on which a single case of BSE identified in a cow in Alberta was announced.

Packers have benefited significantly after BSE discovered

In my opinion, based on the information that I requested and received, the three major Alberta-based packers benefited significantly from the impact of BSE on the price and slaughter volumes of cattle. The substantial increase in net earnings (before corporate interest and taxes) of $130 per slaughtered head (281% increase) resulted from supply and demand forces at work in a distorted market in which cattle supply significantly exceeded slaughter capacity and domestic consumers maintained the demand for their production.

Packers continue to perform well

Because the supply of cattle continues to exceed the capacity of the meat packing plants, and the domestic and limited export-market demand has continued to be strong, the integrated meat packing operations of the three major Alberta-based packers continue to perform very well. Not until meat packing capacity in Canada comes into balance with cattle supply will the market return to its previous competitive state which existed prior to May 20, 2003.

Background

On March 3, 2004, Mr. Brian Mason, MLA, tabled before the Public Accounts Committee a draft report entitled *Consolidated Beef Industry Action Plan: Actions for Industry if Borders Remain Closed*, prepared for the Alberta Beef Industry Council and dated February 18, 2004. The draft report stated[1]:

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[1] Using the latest available prices from the Canadian Boxed Beef Reports prepared by the George Morris Centre, Guelph, Ontario

> "The average packer gross margin[2] for the period of Sept 22 to Feb 16 2004 is $431 per carcass. This compares to $144 per head - one year ago and to $208 per head (Cdn$) for the US during the same Sept 22 to Feb 16 time period.
>
> In other words, packer margins are 200% higher than one year ago and 107% higher than what is currently the case in the US."

Mr. Mason's tabling of this information led to calls for the Auditor General to investigate and report.

We met with three major packers

To respond to questions from Alberta citizens, members of my staff and I met with senior representatives from the three major organizations involved in the integrated meat packing industry in Alberta. These three meat packers process at least 90% of the cattle slaughtered in Alberta:

Cargill Foods High River (a division of Cargill Limited)
Lakeside Packers (a division of Tyson Foods, Inc.)
XL Foods Inc.

Packers cooperated

The three major meat packers cooperated with us since we committed to respect the confidentiality of the financial information regarding the performance of their individual operations. Therefore, we have combined the financial information provided in this section and have not shown it by individual organization.

The three organizations secure their supply of cattle for their meat packing operations under somewhat different business models. Therefore, we requested, both segmented financial information and their combined cattle supply and meat packing financial results.

We analyzed financial information from before and after the discovery of BSE

To be able to assess the financial performance of the integrated meat packing operations both before and after May 20, 2003 (identification of BSE), we requested and received financial information for their fiscal 2001, 2002 and 2003 years and financial information for the period up to December 31, 2003. We selected a post-BSE reporting period up to the end of December 2003, (the month the first case of identified BSE in the United States was reported) the period during which there was the greatest instability in the markets.

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[2] Gross margins stated in Canadian Boxed Beef Reports do not include kill, cut and packaging costs. Therefore, they are not the same as the gross profits that we report in this section. Gross profit is the value of sales less the cost of sales, which includes material, labour and other direct costs of producing finished products.

Financial and operating information agreed to underlying systems

The financial information provided to my Office by the three organizations was agreed to the financial records used to prepare their individual audited fiscal year financial reports. In addition, their monthly and annual financial and operating information was agreed to their internal reports prepared from the same systems that provide the information for their audited financial reports. For two of the organizations, I engaged the firms who audit those organizations and relied on the work they performed, under my direction, on the financial information and operating systems. For the third organization, I agreed the financial and operating information to their audited financial information and underlying information systems myself.

Findings

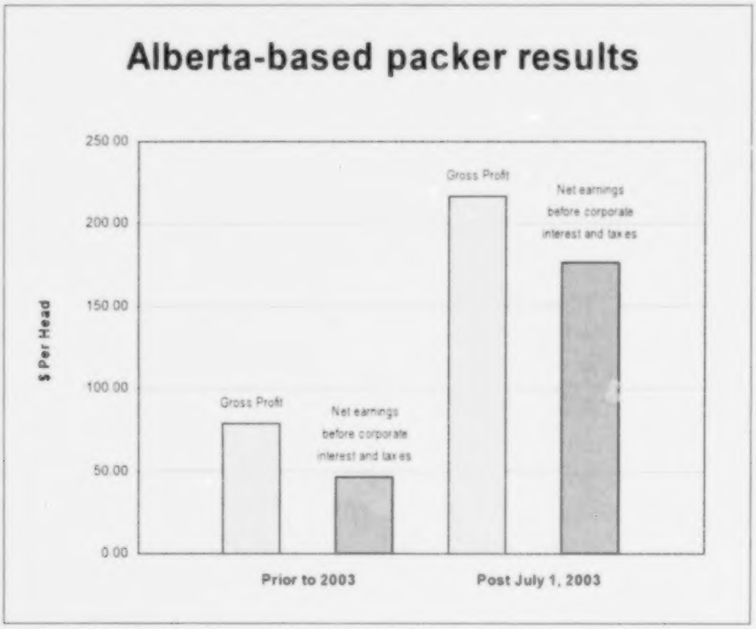
The financial information provided to me shows clearly that the integrated meat packing operations of the three major Alberta-based packers have performed substantially better following the introduction of the Canada Alberta BSE Recovery Program (CABSERP) on June 18, 2003, than in the preceding three years.

I was able to determine that up to December 31, 2003, the gross profits of the integrated meat packing operations were increasing significantly as was indicated by the Canadian Boxed Beef Reports. In addition, the increase in the gross profits resulted in substantial increases in the net earnings before corporate interest and income taxes for the integrated meat packing operations.

In the following table, I have normalized and combined the financial and slaughter information that I obtained from each of the three major Alberta-based packers:

	Normalized[3] 12 months of operations prior to 2003		6 months of operations to December 31, 2003		Dollar increase	Percentage increase
	(in thousands of dollars)	Per head	(in thousands of dollars)	Per head	Per head	Per head
Gross profit	$ 201,027	$ 79.00	$ 242,252	$ 216.53	$ 137.53	174%
Net earnings before corporate interest and taxes	$ 117,806	$ 46.30	$ 197,413	$ 176.45	$ 130.15	281%
Number of head slaughtered[4]	2,544,666		1,118,803			

The chart that follows displays the preceding per-head financial information:



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[3] To *normalize* means to eliminate anomalies so as to facilitate comparisons. From the information provided to me, I have selected for each packer the 12 months of operations with the least amount of nonrecurring items and adjusted for any other unusual items.

[4] The number of head slaughtered was obtained from each of the respective packers' internal operational records. This slaughter information was not publicly available and may not agree with other slaughter information obtained from public reports on which our consultants have relied.

BSE programs paid at least $45 million to three major packers

On June 14, 2004, the Department of Agriculture, Food and Rural Development released a listing of the recipients of more than $402 million under six programs designed to help the integrated beef industry cope with the challenges raised by the single incident of BSE in Alberta. This listing identified the three major Alberta-based packers as having received directly in total at least $45 million in payments from the BSE compensation programs to which they were entitled as owners of cattle eligible for the compensation programs. I have confirmed that the packers were eligible for the money received under the programs.

Due to BSE, packers are incurring additional operating costs

The three major Alberta-based packers have told me that after the discovery of BSE they have incurred additional operating costs to comply with new regulations for the operation of their plants. I have received certain information from the Alberta-based packers purporting to substantiate the additional costs, however, the information is not complete nor is it uniform in its scope. What is clear is that those costs have been much less significant than the increase in their profitability. To date, those additional operating costs have been absorbed by their substantially increased operating results.

The most significant matters noted by the three major Alberta-based packers were:

Loss of full sales value

1. loss of sales value due to substantial discounting in the US export market and the decline in offal market opportunities. This is a "lost opportunity" cost for the packers as they have lost sales value in the US and also their previous export market opportunities, primarily to Asia, have been eliminated due to the identification of BSE. (Refer to page 33 for discussion of lost sales values.)

Strengthening of Canadian dollar

2. decline in the rate of exchange between the Canadian dollar and the US dollar. The strengthening of the Canadian dollar, by approximately 20%, has resulted in lower Canadian dollar revenue for the packers for approximately 40% of their production.

US market discounts Canadian beef

3. lack of harmonization of the standards for grading beef between Canada and the US. As noted elsewhere in this report, the US market has discounted Canadian packer higher grade (AAA) production by approximately $4.50/cwt or more. The amount of the discounting of Canadian packer higher grade production has increased since the identification of BSE.

Specialized procedures required

4. additional costs being incurred by the Alberta-based packers. These include labour costs for dentition (inspecting teeth in cattle), segregating slaughtered meat from under 30 month cattle and older cows, under utilized cooler/freezer capacity, disposal and rendering costs, tallow polishing etc. (refer to specialized procedures noted on page 40). However, the aggregate of all these costs at most might range from an additional $25 to $35 Canadian per slaughtered head.

The first three matters identified above represent a loss of revenue for the packers, which is outside of their ability to control. However, the significant increase in their profits earned since the identification of BSE have absorbed these negative revenue matters.

Additional costs absorbed by significant profits

The fourth matter of the additional costs is partially within the packers' ability to control. Also, these additional costs have been absorbed to date by the very large increase in profits being earned by the packers. However, when the markets and packers' operations return to "normal", these additional costs will have a much more serious impact on the packers. These additional costs could reduce the packers' normal net earnings before corporate interest and income taxes by approximately 50%.

Further challenges

Many issues still to be resolved

In the course of our work, we have identified issues critical to the success of the integrated beef industry that still need to be resolved. The issues that we discuss in this section may not be a complete list, but they indicate the range and significance of further challenges. Both levels of government and the industry are aware of and have been working on these issues. Some issues existed before May 20, 2003 and the BSE crisis has emphasized their significance; others result from the crisis. In all cases, solutions require cooperative action between the major stakeholders in the beef industry: the provincial and federal governments, producers, processors, associations, and the industries that support the beef industry.

The critical issues include:
- Re-opening borders to cattle and beef exports.[1]
- Harmonizing BSE-related technical matters such as feed bans and SRMs between Canada and the US.[1]
- Harmonizing Canada's beef grading system with the US system.[1]
- Developing slaughter capacity for surplus cattle.
- Developing new processing capacity for value added products, such as nutraceuticals and table-ready finished products.
- Ensuring that the Canadian Agricultural Income Stabilization Program provides sufficient coverage for producers.
- Enhancing the accuracy, completeness, and timeliness of data about the integrated beef industry.
- Supporting the rural industries and professions that form the rural economic infrastructure.
- Facilitating consensus within Alberta's integrated beef industry.

Re-opening the US border

The issue that has dominated beef industry discussions since May 20, 2003 is complete border re-opening. The major cattle and beef export market is the US from which Canada's muscle cuts from animals over thirty months (OTM), all bone-in cuts, and all live exports are still banned. The negotiations with the US are the responsibility of the federal government, but Alberta can support these negotiations. Departments of the Alberta government such as AFRD, International and Intergovernmental Relations (IIR), and Economic Development need to maintain their advocacy to ensure that the US border re-opening discussions advance. For example, AFRD, by continuing its advocacy with stakeholders such as American and Canadian politicians, civil servants, and beef and cattle associations, can help to keep the Canadian beef trade issue on the federal political agenda. In addition, the Alberta government may also find ways to counteract the protectionist American initiatives to keep the border closed. We earlier highlighted the R-CALF USA challenge in the American courts as an example of this protectionist mindset.

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[1] The federal government must demonstrate leadership in these issues as they have the sole authority to implement the ultimate solutions such as trade treaties, reciprocity agreements, etc.

Re-opening other international borders

Similarly, Alberta can help to re-open the borders to the rest of the world's markets. Ministries such as AFRD, IIR, and Economic Development actively advocate on Alberta's behalf in various countries. Alberta must also press the federal government to continue Canada's negotiations with all countries to open their borders to all Canadian beef products. Success with opening the other borders will reduce Canada's dependence on the US market.

Initiatives to ensure food safety

A prerequisite to re-opening borders is to ensure that Canada has effectively addressed the animal health issue and produces healthy beef. Alberta and its partners must show the international community that Canada has handled the current crisis and is prepared for other potential threats. Earlier we recommended that AFRD, working with the federal CFIA and the beef and related industries, ensure that Alberta meet its contribution to Canada's BSE testing quota. We also mentioned the importance of updating and maintaining the FADES agreement as part of the preparation for another foreign animal disease outbreak. The Department of AFRD also plays a lead role in promoting On-Farm Food Safety (OFFS)[2] and Hazard Analysis Critical Control Point (HACCP) [3] programs to producers and processors in Alberta. OFFS and HACCP programs will be critical to preventing food safety emergencies and maintaining confidence in Alberta's food industries, including the beef industry.

Harmonization of technical BSE issues

The US is Canada's largest cattle and beef trading partner, so it benefits the Canadian industry to harmonize its technical regulations with the US. Broadly speaking, Canada's regulations regarding technical issues such as feed bans and the handling and disposal of specified risk materials have been historically consistent with the US. However, the evolution of international BSE guidelines, changes in the BSE risk status of the two countries, and differing systems for implementing new regulations mean that harmonization remains an important target. For example, Canada's July 9, 2004 announcement that it intends to remove all bovine SRMs from the animal food chain mirrored a simultaneous USDA announcement. Further technical developments need to be coordinated to avoid diverging regulatory environments.

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[2] For information about OFFS, a program to "reduce the risk of unsafe food products originating from the farm and to reassure both the processor and consumer that the products supplied are safe and of high quality", see the AFRD website, http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/afs4361?opendocument.

[3] For information about HACCP, an "effective and rational means of assuring food safety from harvest to consumption", see the AFRD website,
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/afs4338?opendocument.

Canadian boxed beef has long been discounted in US

For the Canadian beef industry to extract full value from its product, Canada must convince the Americans to grade Canadian beef equivalent to US beef. In an earlier section, we described the discount at which Canadian boxed beef trades in US markets. There are two important points about the grading equivalency and the BSE crisis. The first is that grade equivalency, or the lack thereof, has been a long-term issue in the industry. The second is that the BSE crisis made it worse.

US should recognize Canada's AAA beef as equivalent to US Choice

The federal and provincial governments should continue to work with the Canadian beef industry and decision makers in the US beef industry to implement a form of harmonization that would recognize Canadian AAA beef as equivalent to Choice in the US. An alternative available to individual producers and processors would be to develop branded beef programs similar to Intercity Packers' "Certified Angus"[4] or Cargill's "Sterling Silver Premium Meats"[5]. Branded programs have the ability to recognize value premiums outside the scope of the traditional grading regimes. Alberta can assist with international market research and analysis, and trade promotion.

Large investment required to build a slaughter facility

Harmonization in grading boxed beef maximizes value only if Alberta develops the slaughter capacity to process its own cattle. There are many hurdles to building and operating more slaughter capacity. Finding the capital for investment will be challenging. For a new slaughter facility to be economically viable and to process the existing surplus of animals, it needs to be large, at least $100 million for construction alone. An alternative may be for the existing packers to use their current substantial profits to expand existing capacity and operations.

Packers will need labour supply and markets

New slaughter facilities need to operate economically and market effectively. The labour supply in Alberta is now tight and may influence the profitability of a new plant. Packers succeed in part because they have a distribution network to market their beef. However, should the US border re-open to trade in live animals, US packing houses may outbid Canadian plants for fed cattle, which increases the risk for any new or expanded Canadian packers.

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[4] See http://www.intercitypackers.ca.

[5] See http://www.sterlingsilvermeats.com/excel/index.jsp.

Increased slaughter capacity helps deal with the OTM issue

An increase in Alberta's slaughter capacity will also contribute to a solution for the growing OTM issue. Alberta's major packers now focus on young fed cattle and there is relatively little slaughter capacity to handle OTM animals. Slaughtering and realizing value from OTM animals is a key element in cattle industry profitability. As well, slaughtering OTM animals will provide an important source to help meet Alberta's BSE testing quotas.

Value added processing of cattle-based products

The issue of increased slaughter capacity ties into the need to develop new value added products, especially products that can use Alberta's OTM cattle population. Not only does further processing of food and other products provide another market for slaughtered beef, it also promotes value-added activity in Alberta. AFRD's Industry Development Sector supports new product initiatives in Alberta. For example, the Leduc Food Processing Development Centre helps processors develop, test or produce new products. Again, issues such as capital investment, product development skills, and viable distribution channels need to be addressed by government and industry for these initiatives to succeed.

Canadian Agricultural Income Stabilization (CAIS) program

We mentioned earlier that Canada's federal/provincial farm safety net programs were under development at May 20, 2003. As part of the national Agricultural Policy Framework initiative, the Canadian governments have now developed the Canadian Agricultural Income Stabilization (CAIS) program. The provincial government has stated that it will rely on CAIS to provide income support to agricultural producers. Since CAIS was rolled out in 2003, there have been three amendments to improve coverage. However, producers in the cattle industry have questioned whether CAIS can protect them in the case of an industry disaster such as BSE.

How CAIS works

Producers establish an historical production margin under CAIS; this is essentially the average of the last five years' operating profit. Producers select a level of financial coverage under CAIS, expressed as a percentage of the production margin. Based on the level of coverage, producers make a refundable deposit in the program. Should operating income in a year fall below the production margin, producers can claim income support up to the level of coverage chosen. Part of the support funding would come from the producer's deposit, but the majority is funded by the federal and provincial governments.

CAIS production margins may erode

The years from 2000 through 2002 were financially difficult for Alberta's cattle producers due to drought. 2003 was a disaster due to BSE. Since 2000, emergency government payments under programs such as the Farm Income Assistance Program and the BSE financial aid programs have buoyed annual income and kept the rolling average production margin at a higher level. If the

BSE crisis continues, production margins for producers may erode, leaving the producer less and less protection under CAIS. As well, the requirement to deposit a significant amount of money (like a refundable insurance premium) reduces producers' operating funds.

Data about the industry needs to improve

In earlier sections, we noted that data about Alberta's integrated beef industry can be improved. For example, we cannot reconcile CanFax data on the number of cattle slaughtered in Alberta to the data that we received directly from the three large packers. AFRD, other governments, and industry need better information to plan and manage the integrated beef industry.

Dairy producers have lost much of their cull animal revenue

The bulk of our report has focused on the upstream beef industry participants, from the cow-calf operator through the meat packer. However, the BSE crisis has profoundly affected many industries and businesses in rural Alberta. During our work, we looked into two examples of the spin-off impact of BSE in Alberta. Dairy producers generate up to 20% of their revenue by culling their older cows and selling seed stock into the US. 90% of cull animals went to the US for slaughter, so closure of the border and limited capacity in Canada to slaughter cows over thirty months have radically reduced the dairy farmer's income. Alberta Milk, the dairy industry committee, has recently requested an increase in the farm gate price of milk to adjust for the loss of revenue.

Revenue for veterinarians in rural practice has declined

Veterinarians have also experienced a significant decline in revenues after May 20, 2003. In the past, producers called veterinarians to determine what killed their animals on farm; this protected the rest of the herd from potential diseases. However, now producers call veterinarians to the farm less often because the value of their animals has declined so steeply. In addition, no one wants to be the next producer to report a BSE-infected animal. The Alberta Veterinary Medical Association estimates that income in mixed rural practices has declined by 28% in the spring of 2004. In response, rural veterinarians must restructure their practices or leave rural work altogether. As a result, the veterinary infrastructure in rural Alberta may erode and the province may not be prepared to meet a future animal health crisis.

Multi-ministry approach to rural development

The BSE crisis has impacted many other industries and businesses in rural Alberta, including the transportation, farm machinery, and feed sectors. These industries form a significant part of the rural infrastructure that supports Alberta's primary agricultural community. AFRD has long had a goal to strengthen rural communities; the Department's strategies to implement this goal note that a multi-ministry approach is required. In March 2004, a MLA Steering Committee released its report, "Rural Alberta: Land of Opportunity"; this is a step toward developing a rural development framework. The BSE crisis has re-emphasized the importance of completing and implementing the framework so rural infrastructure can be preserved and prepared for future challenges.

Facilitating consensus in the cattle and beef industry

Our work on this report has brought us into contact with many beef industry associations. The largest Alberta-based association in terms of membership and financial power is the Alberta Beef Producers (formerly the Alberta Cattle Commission). With the powers and revenues granted it under the *Marketing of Agricultural Products Act*, ABP has considerable influence. Smaller organizations focus on particular constituencies within the industry; we spoke with some of these organizations as listed in Appendix B. Historically, some industry organizations have been founded to address particular current issues and dissolved quickly due to lack of resources. The number and variety of organizations may be inevitable in an industry where there are 24,500 producers and processors spread geographically around the province. AFRD did a good job communicating with associations and individuals through the BSE crisis. A unified voice for the beef industry is important for collecting opinions and vetting policies and approaches.

Chronology of BSE in Canada

Date	Description
1978	First foreign meat and bone meal ban in Canada.
1989	CFIA introduced ongoing BSE education and awareness programs for veterinarians, producers, and cattle industry workers.
1990	BSE declared a "reportable disease". Live imports of bovines from the UK banned.
1992	BSE surveillance program initiated in Canada, targeting high risk cattle.
December 1993	The first cow in Canada with BSE was found on a farm near Red Deer, Alberta. The cow was imported from the UK in 1987. The cow, its offspring, and all cattle that had been imported from the UK since 1982 were destroyed.
1994	Live imports of bovines from all countries with an identified case of BSE banned from Canada.
1996	Canada banned live imports of bovines from all countries either that have had an identified case of BSE or that do not test for BSE.
1997	First FADES plan signed between the CFIA and Alberta.
March 1997	The cow which later tested positive for BSE in Alberta was born. The cow was sold to a Saskatchewan farm, where it stayed for four years and gave birth to four calves.
August 1997	Canada banned the feeding of rendered protein products from ruminant animals (cattle, sheep, goats, bison, elk or deer) to ruminant animals. Ruminant animals can still be fed the remains of non-ruminant animals (horses, pigs, chickens and fish).
2002	Agriculture Canada ordered 14 water buffalo on Vancouver Island to be slaughtered over BSE concerns. The buffalo were imported from Denmark shortly before BSE surfaced in that country.
July 2002	AFRD accepted a request from cervid producers to expand CWD testing to 100% of dead farmed animals. CWD tests rose from 200 per month to 1,000 per month.
August 8, 2002	Health Canada confirmed that a Canadian man died in Saskatchewan from the variant form of Creutzfeldt-Jakob Disease, a human disease associated with the consumption of BSE-contaminated beef. The man apparently contracted the disease in the UK.
August 23, 2002	A farmer near Wanham, Alberta, purchased the cow born in 1997 at a cattle auction.
January 2003	The cow appeared ill and unable to stand. The cow was shipped to slaughter for personal consumption.

January 31, 2003	The provincial inspector at an Alberta-licensed meat facility condemned the cow as unfit for human consumption because it had pneumonia. The cow's head was submitted to FSD's Fairview laboratory as part of the BSE surveillance program. The appropriate brain tissues were harvested and sent to FSD's TSE laboratory in Edmonton, where it was given a lower priority for BSE surveillance testing as the carcass had been condemned from the human food chain. The remains of the cow were sent for rendering (no meat from the animal entered the human food chain).
May 16, 2003	The cow's brain tissues tested positive for BSE and the CFIA was notified. CFIA then submitted the laboratory tissues to the NCFAD laboratory in Winnipeg for confirmatory testing. Investigations began on the farm where the cow came from.
May 18, 2003	The CFIA's NCFAD laboratory confirmed the positive BSE test result. The farm where the cow came from was placed under quarantine. CFIA began to investigate the origin of the cow, its movement between herds, and how its remains were processed.
May 19, 2003	The cow's specimens were sent to the BSE World Reference Laboratory in Pirbright, England.
May 20, 2003	The World Reference Laboratory confirmed the positive BSE test results and that the brain tissue was bovine. The federal and provincial Ministers of Agriculture jointly announced the detection of BSE in the first native-born cow in North America. The US and 33 other countries announced a ban on all imports of Canadian cattle and beef and other ruminants.
May 21-24, 2003	The search for the origin of the Alberta case of BSE broadened to Saskatchewan and British Columbia.
May 25, 2003	Preliminary BSE tests on 150 of the 192 cattle from the farm where the cow came from tested negative for BSE. Feed mills' records and rendering plants' records were investigated to track the source of contaminated feed from at least six years ago.
May 26, 2003	The Alberta government announced ways to ease hardship and to ensure Alberta beef is safe. Two entire herds were depopulated and tested for BSE. Two hundred farmers who had possibly purchased non-ruminant feed made from the rendered remains of the BSE cow were questioned to verify compliance with Canada's ruminant-to-ruminant feed ban.
May 27, 2003	Up to $24 million of Canadian beef already in transit on May 23, 2003 was returned by foreign countries.
May 28, 2003	Alberta Beef Producers announced that Canada's beef industry faces up to $27.5 million a day in overall lost revenue with export markets closed, and the impact is increased when related businesses, including meat plants, feedlots and the trucking industry, are factored in.
May 29, 2003	Demand for dead stock in rendering has dropped 50 per cent since the BSE incident. International customers have stopped buying Canadian rendered products such as gelatine, cosmetics, pharmaceuticals and animal feed.

May 30, 2003	At the Calgary Stockyards' weekly sale in Strathmore, 26 cattle moved through the auction ring, compared to 1,000 on a regular day prior to the discovery of BSE.
June 5-6, 2003	Results showed that none of the 1,400 animals depopulated and tested to date by the CFIA had BSE. At the peak of the investigation, 18 farms were quarantined (13 in Alberta, two in Saskatchewan and three in British Columbia). Four scientists from Europe, New Zealand and the US arrived in Ottawa to examine Canada's response to the BSE outbreak.
June 9, 2003	The international panel of scientists confirmed Canada's BSE investigation was timely and thorough.
June 12, 2003	Federal training and short-term relief grants were announced for workers laid off as a direct result of the BSE crisis.
June 17, 2003	CFIA ended its investigation into the source of the BSE infection. Confirmation tests on the final 700 animals were all negative for BSE. Quarantine orders on the remaining farms were lifted.
June 18, 2003	Ministers of Agriculture announced the Canada-Provincial BSE Recovery Program to provide temporary assistance to help the Canadian cattle and beef industry continue to operate while borders are closed. Alberta commitment was over $100 million.
June 20, 2003	The federal government rejected a proposal by the Canadian Renderers Association for financial assistance. Rendering companies then introduced a charging system for all dead stock.
June 24, 2003	CFIA announced that it would pay $3.1 million for 62 claims from ranchers whose cattle were slaughtered during the BSE investigation. In total, about 2,800 cattle in Alberta, Saskatchewan and British Columbia were destroyed for testing.
June 26, 2003	The federal Health Minister and Agriculture Minister agreed to respond to recommendations from the international team of experts looking into Canada's handling of the BSE case.
July 4, 2003	The CFIA released its report on the BSE investigation.
July 18, 2003	The Government of Canada announced that Specified Risk Materials (SRM) be removed from cattle at slaughter.
July 22, 2003	Alberta set aside $246 million for the CABSERP program to deal with fallout from the one case of BSE.
July 25, 2003	The government of Alberta announced it will put another $79 million into the BID and other programs to help farmers deal with the BSE crisis.
July 30, 2003	Japan's Agriculture Minister announced Japan will continue to ban Canadian beef.
August 5, 2003	Human Resources Development Canada announced that as of July 18, it had received 4,238 applications for employment insurance from workers who have lost their jobs because of BSE. Of those, 2,620 of the unemployed were in Alberta, 872 in Quebec and 434 in Ontario.

August 8, 2003	The Canada-Provincial BSE Assistance program in Alberta expanded to include bison, elk, deer, and sheep producers. The USDA announced it will ease its total ban on Canadian beef. The importation of live Canadian cattle will continue to be banned, but boneless bovine meat from animals under 30 months of age will be permitted.
August 11, 2003	Mexico announced a partial lift on its ban of Canadian beef imports.
August 22, 2003	CMAP was announced to attempt to stimulate the province's cattle marketplace.
August 25, 2003	AFRD announced laboratory ($10 million) and surveillance program ($5 million) enhancements.
August 31, 2003	The Canada-Provincial BSE Recovery Program ended for animals slaughtered in Alberta. Quebec Agriculture Minister released a report that indicated retail prices of beef in Alberta have gone down in price since the BSE case.
September 4, 2003	Canadian beef producers asked the Federal Agriculture Minister to approve a mass slaughter of 620,000 cattle. Alberta Agriculture Minister rejected the mass slaughter of Canadian cattle raising the issue of appropriate disposal.
September 11, 2003	Russia lifted some of its restrictions on beef imports from Canada.
September 12, 2003	Alberta government completed its third fed cattle program, CMAP.
September 23, 2003	Alberta announced the BSE Slaughter Market Adjustment Program for Other Ruminants.
October 1, 2003	Mexico's Agriculture Minister signed an agreement to accept fresh and frozen cuts of boneless beef from cattle under 30 months. Mexico also agreed to accept liver, kidney, heart and tongue.
October 8, 2003	DNA tests confirmed the cow that sparked the Canadian BSE crisis was born on a farm at Baldwinton, Saskatchewan.
October 9, 2003	AFRD announced the Steer and Heifer program.
October 24, 2003	AFRD announced two new programs: a $4-million Beef Product and Market Development Program and a $400,000 Food Processor Assistance Initiative.
October 31, 2003	USDA issued proposed rules to allow import of live Canadian cattle less than 30 months of age, sheep and goats less than 12 months, and cervids for immediate slaughter.
November 12, 2003	The Philippines became the first market to open its borders to both bone-in and boneless beef from Canada.
November 19, 2003	The Federal government approved a $120 million cull animal program to help ranchers slaughter older cows. The aid package was to be split 60/40 with the provinces.

November 22, 2003	Alberta announced that it would create its own aid package for ranchers instead of participating in the Federal program. Alberta's program would give producers a choice of marketing options instead of simply slaughter.
November 24, 2003	Alberta unveiled its Alberta Mature Market Animal Transition Program aimed at the province's cow-calf producers.
November 24, 2003	AFRD announced the Winter Feed program for Alberta's deer, elk, llama, and alpaca producers.
November 26, 2003	Statistics Canada reported cattle receipts between July and September 2003 totalled $282 million, a 72 per cent decrease over the same period in 2002. Alberta producers have been given $923 million in program payments the first nine months of 2003, more than double the average over the last five years.
December 23, 2003	The first BSE case in the United States was announced when a Holstein cow from a Washington state farm tested "presumptive positive" for BSE.
December 24, 2003	Canada restricted imports of cattle-related products from the US to dairy products, cattle destined for immediate slaughter, and boneless beef cuts from cattle under 30 months of age.
December 25, 2003	Scientists at the World Reference Laboratory in Britain confirmed that the Washington state cow did have BSE. 50 countries closed their borders to American beef. Canada did not expand its US beef import restrictions.
December 27, 2003	US announced that an ear tag on the Washington cow diagnosed with BSE suggests that it was imported from Canada as part of a herd of 81 dairy cattle from Alberta.
December 29, 2003	The CFIA stopped all American pet foods containing rendered animals proteins from crossing the border to Canada.
January 5, 2004	The comment period for the US proposal to re-open the border to live Canadian cattle under 30 months closed. US stated that no decision would be made until the Washington state BSE investigation was concluded.
January 6, 2004	Officials from the US and Canada announced that DNA tests confirmed the cow that tested positive for BSE in Washington State was born in Alberta.
January 9, 2004	The CFIA partially lifted a ban imposed on American-made pet food. Ban was then limited to pet food products containing beef or bovine-derived ingredients.
January 10, 2004	The Federal government committed $92.1 million to be spent over five years for BSE surveillance and testing. BSE testing would increase from the current level of 5,500 to at least 8,000 in the first year, and then increase to 30,000.
January 14, 2004	Canada chose the Swiss biotech firm Prionics AG to provide rapid testing at CFIA laboratories for its expanded surveillance for BSE.
January 15, 2004	The CFIA banned "downer" animals from being slaughtered at packing plants that ship meat to the US in alignment with US policy.

January 18, 2004	The Prime Minister stated that he does not support testing of all cattle for BSE as a way to resume international trade.
January 20, 2004	Canada formally requested that the US re-open its border to all cattle and beef from animals born since the ruminant-to-ruminant feed ban in August 1997.
February 6, 2004	Alberta Agriculture announced it would soon be using the CFIA approved Bio-Rad TeSeE® ELISA rapid test for BSE testing. The rapid tests allow inspectors to test up to 1,000 head of cattle a week.
February 7, 2004	US-commissioned scientific panel called trade barriers "irrational," and urged the US to lift its bans, as the risk of a massive outbreak was low.
February 11, 2004	AFRD announced a beef pricing investigation.
February 15, 2004	Industry participants planned to raise $40 million to construct a packing plant in northeast Calgary to increase the export of boxed beef to the US.
February 24, 2004	Statistics Canada reported farm income fell to its lowest level in three years in 2003 due in part to the BSE crisis. Revenue from livestock also fell 11 per cent, the largest drop in more than a decade.
February 28, 2004	Macau re-opened its borders to all Canadian beef and cattle.
March 1, 2004	Canadian officials tested 12 cows thought to have eaten the same feed and born within the same year as the Alberta-born dairy cow that tested positive for BSE in Washington state in December. All 12 cows were found to be free of BSE.
March 3, 2004	Saskatchewan Agriculture asked Ottawa to probe into whether Canada's meat packing industry profited from the BSE crisis.
March 4, 2004	An Alberta MLA asked the Public Accounts Committee to have the Alberta Auditor General investigate the BSE-related assistance programs. The Committee rejected the request.
March 8, 2004	Minister of AFRD requested that the Alberta Auditor General fast track a report to answer questions raised whether the public dollars used to support the people in Alberta's beef industry helped to achieve the intended goals of the assistance programs.
March 10, 2004	The federal Standing Committee on Agriculture and Agri-food questioned three of Canada's main meat-packing companies over "price gouging" allegations.
March 11, 2004	Alberta Agriculture released its "Review of Pricing in the Beef Industry". The report found programs were effective, but could not confirm whether meat packers unfairly benefited.

March 20, 2004	The CFIA announced an end to its probe into North America's second case of BSE. CFIA stated that BSE likely arrived in Canada in the 1980s when dozens of cattle were imported from the UK, where over 180,000 cases of BSE have been confirmed. The investigation found the dairy cow probably became infected with BSE after consuming contaminated feed sometime between its April 9, 1997, birth date and the August 1997 implementation of Canada's ruminant-to-ruminant feed ban.
March 23, 2004	Alberta presented its comment submission on the US proposal to re-open the border to live cattle less than 30 months of age directly to the USDA.
March 30, 2004	The House of Commons Agriculture Committee ordered Canada's top five meat-packing companies to open their financial records in private by April 21 to determine whether the companies have been profiting unfairly from the BSE crisis.
April 7, 2004	USDA stopped taking submissions on whether the US should re-open its market to Canadian cattle.
April 23, 2004	US changed import rules and accepted more beef products from Canada, including all bone-in cuts and processed beef from animals under 30 months of age.
April 30, 2004	AFRD released "Alberta Beef – Focus on the Future", a strategic framework developed with industry consultation.
May 5, 2004	An US federal judge granted R-CALF USA's request for a temporary restraining order against Canadian beef entering the US.
May 7, 2004	Federal committee demanded that packers hand over their financial records as part of probe to determine whether they received as much as $1.6 billion in government programs.
June 14, 2004	List of 22,000 Alberta producers who received payment for nearly one million animals under the first six BSE compensation programs was released. A seventh program aimed to compensate producers for the remaining cattle on feed was still underway.
July 9, 2004	Canada announced the intent to implement new animal feed restrictions to further strengthen safeguards against BSE. Bovine specified risk materials (SRM) would no longer be used in the animal feed chain. These tissues were already removed from the human food chain.

List of organizations consulted during our work

We wish to express our appreciation for the cooperation and contributions we received from the following organizations during the course of our work.

Government of Alberta
Ministry of Agriculture, Food and Rural Development
Ministry of Economic Development
Ministry of Justice and Attorney General
Ministry of Municipal Affairs

Government of Canada
Canadian Food Inspection Agency
Public Safety and Emergency Preparedness Canada

Financial Institutions
Agriculture Financial Services Corporation
Royal Bank of Canada

Industry Groups
Alberta Beef Producers
Alberta Cattle Feeders' Association
Alberta Livestock Dealers and Order Buyers Association
Alberta Milk
Alberta Veterinary Medical Association
Canadian Beef Export Federation
Canadian Council of Grocery Distributors
Feeder Associations of Alberta
Western Stock Growers' Association

Private Businesses
Cow-calf operators – interviewed eleven operators
Feedlot operators – interviewed eight operators
Packers – interviewed four packers
Processors – interviewed one processor

Glossary

Term	Definition
AAA	Next to Canada Prime, AAA is the highest quality Canadian beef grade. The Canadian Beef Grading Agency characterizes AAA beef as derived from a youthful animal; good to excellent muscling with some deficiencies; firm, bright red rib eye muscle; small amount of marbling; 2 mm or more of fat that is firm in texture, white or amber in color. AA beef has the same characteristics except a slight amount of marbling.
Abattoir	A slaughterhouse.
ABSEMAP-OR	Alberta BSE Slaughter Market Adjustment Program for Other Ruminants. One of the programs discussed in the "BSE Financial Aid Programs in Alberta" section of this report.
ADALP	Alberta Disaster Assistance Loan Program. A loan program offered in Alberta by the Agriculture Financial Services Corporation, a part of AFRD.
AFRD	See Agriculture, Food and Rural Development.
Agriculture and Agri-Food Canada	Federal government ministry that includes the department of AAFC and the CFIA. See its website, http://www.agr.gc.ca/index_e.phtml.
Agriculture, Food and Rural Development	Alberta Ministry that includes the Department of Agriculture, Food and Rural Development as well as the Agriculture Financial Services Corporation. See its website, "Ropin' the Web" at http://www.agric.gov.ab.ca/app21/rtw/index.jsp.
APF	Agricultural Policy Framework. According to its website, http://www.agr.gc.ca/puttingcanadafirst/index_e.php, the APF consists of "federal, provincial and territorial Ministers of Agriculture … pledged to meet today's challenges by jointly developing a comprehensive Agricultural Policy Framework composed of five elements: business risk management; food safety and food quality; science and innovation; environment; renewal".
ASHMTP	Alberta Steer and Heifer Market Transition Program. One of the programs discussed in the "BSE Financial Aid Programs in Alberta" section of this report.
ATSCDAP	Alberta Temporary Slaughter Cattle Disaster Assistance Program. Alberta's predecessor to CABSERP. See the discussion in the "BSE Financial Aid Programs in Alberta" section of this report.
Backgrounder cattle	Weaned cattle grazed on a pasture or fed a high forage diet for about 4-6 months before being sold to a feedlot.

Basis	Difference between a particular Alberta cash price and the Chicago Mercantile Exchange futures contract. The most important component of the basis is the cost of transportation to alternative market or packer outside of Alberta.
Beef	Meat obtained from a bovine. The clean flesh derived from slaughtered cattle, limited to the skeletal striate muscle, and includes the tongue, the diaphragm, the heart, and the esophagus; with or without the fat and the portions of the skin, sinew, nerve and blood vessels.
BID	Alberta Fed Cattle Competitive Bid Program. One of the programs discussed in the "BSE Financial Aid Programs in Alberta" section of this report.
Bovine	A ruminant mammal of the genus *Bos*, such as an ox, cow, or buffalo. 1
Bovine spongiform encephalopathy	The form of transmissible spongiform encephalopathy (TSE) in cattle (i.e. bovines). Most bovines are detected with BSE symptoms only after 30 months of age. In humans, BSE has been linked to variant Creutzfeldt Jacob disease, a fatal neurological disease.
Boxed beef	Wholesale, cut up beef produced by a packer.
Breeding herd	Sexually mature male and female livestock that are retained to produce offspring.
BSE	See bovine spongiform encephalopathy.
CABSERP	Canada Alberta BSE Recovery Program. The first and largest (in dollar terms) of the programs discussed in the "BSE Financial Aid Programs in Alberta" section of this report.
CAIS	Canadian Agricultural Income Stabilization program. The program integrates stabilization and disaster protection into a single program, helping producers protect their farming operations from both small and large drops in income. The program is a whole-farm program available to eligible farmers regardless of the commodities they produce. 5
CanFax	CanFax is the market analysis division of the Canadian Cattlemen's Association (CCA). CanFax provides timely cattle market information to subscribers, comprised primarily of industry participants.
Cattle	Domesticated bovine animals as a group, regardless of age or sex. 1
Cattle on feed	Cattle being finished for slaughter at a feedlot.
CCA	Canadian Cattlemen's Association. According to its website, http://www.cattle.ca/, "the only national association representing the interests of Canada's 90,000 beef producers".

Cervids	Animals that are characterised by the presence of antlers in the male or sometimes both sexes. Male cervids have solid deciduous antlers. Cervids include elk, deer and reindeer.
CFIA	Canadian Food Inspection Agency. According to its website, http://www.inspection.gc.ca/english/toce.shtml, the CFIA "delivers all federal inspection services related to food; animal health; and plant protection".
Choice	The highest quality and value US beef grade.
Chronic wasting disease	The transmissible spongiform encephalopathy (TSE) in cervids. There was an outbreak in Saskatchewan's wild deer and elk population in 2001–02.
CMAP	Alberta Fed Cattle Competitive Market Adjustment Program. One of the programs discussed in the "BSE Financial Aid Programs in Alberta" section of this report.
Cow-calf operation	A ranch or farm where cows are raised and bred mainly to produce calves usually destined for the beef market. The cows produce a calf crop each year, and the operation keeps some heifer calves from each calf crop for breeding herd replacements. The rest of the calf crop is sold between the ages of 6 and 12 months along with old or non-productive cows and bulls. The calves are often sold to producers who raise them as feeder cattle.
CPI	Consumer Price Index. The index is a measure of the average change in prices over time in a market basket of goods and services.
Cull Animal Program	A national program delivered on a provincial basis. The program is open to Canadian producers of cattle and other ruminant animals affected by border closures. The program is designed to provide farmers and ranchers with financial support and assist in the adjustment to a restructured cull animal market. Compensation provides incentive for the marketing of cull animals, reducing the number of surplus culled animals and preventing on farm slaughter.
Cull cow	Culling is the process of removing an animal from a herd. In Alberta, older animals (usually over thirty months) are culled each year and sent to slaughter to reduce the size of the breeding or dairy herd.
CWD	See chronic wasting disease.
Cwt	Hundredweight i.e. one hundred pounds.
Downer	Colloquial terminology for a non-ambulatory animal; generally unable to rise or walk unassisted. This is one of the symptoms that would prompt meat inspectors to test an animal for BSE.
Downstream	Operations that follow other operations in the value chain. For example, a feedlot is downstream from a cow-calf operation, while a packer is downstream from a feedlot.

Drop credits	Cattle byproduct revenues for items such as offal (edible and inedible), hides, etc.
FADES	Foreign Animal Disease Eradication Support plan.
Fat White Cattle	Premium quality cows, normally sold to a specific market in the US at a premium. These cows are in excellent condition and larger than normal due to special feeding. They do not fit well into the Canadian processing plants, so Canadian packers will only purchase at a discount.
Fed cattle	Steers and heifers (usually in a feedlot) that have reached optimum slaughter weight of 1,200 to 1,400 lb. Most will have been on a special "hot" feed of concentrates and grains for the last 90-120 days. 3
Federally-reportable disease	Diseases that are of significant importance to human or animal health or to the Canadian economy which must be reported to the Canadian Food Inspection Agency (CFIA). Once reported, appropriate control or eradication measures will be applied immediately.
Feeder cattle	Cattle (usually from a cow-calf operation) raised for beef. Feeder cattle are usually born in late winter or early spring and will be sold to a feedlot after reaching an weight of about 500 to 600 lb.
Feedlot	An enterprise in which cattle are fed grain and other concentrates for about 90-120 days. Feedlots range in size from less than 100 head capacity to tens of thousands. 3
FIDP	Farm Income Disaster Program
Finished	An animal that has reached market weight and is ready for slaughter.
FSD	Food Safety Division, part of the Alberta Department of AFRD. See information on the Food Safety Division on the website, http://www.agric.gov.ab.ca/app21/rtw/selcat.jsp.
Heavy cattle	Cattle in excess of 1,600 lb. In Alberta, packing plants are designed to handle animals up to 1,400 lb. As a result, Alberta's heavy cattle have historically been sold to the US market.
Heifer	Young female cow which has not yet given birth to a calf, average weight about 1,200 lbs. 1
Histological	Pertaining to histology. Histology is the science concerned with the identification of the structure of cells, tissues, and organs in relation to their function. A microscope is used to make the identification of the structure of cells, tissues, and organs.
IHC	Refer to Immunohistochemistry test.
Immunohistochemistry test	A laboratory methodology that involves microscopic examination of brain tissue that has been reacted with antibodies for specific proteins. The antibodies are linked to enzymes that show a chemical reaction through

	staining of the tissue and can detect the abnormal form of prion protein found in TSEs. IHC testing requires about five days to complete sample preparation. The stained tissue must then be examined by a pathologist.
IPI	Industry Price Indicator. The index is a measure of the average change in prices over time in a market basket of goods for packers.
Live weight	Animal weight when it is still alive. The cattle industry still largely operates with imperial measures (pounds), not metric measures.
LIS	Livestock Identification Services Ltd. A non-profit company that administers and delivers brand inspection and other duties on behalf of the Alberta government.
MATP	Alberta Mature Market Animal Transition Program. One of the programs discussed in the "BSE Financial Aid Programs in Alberta" section of this report.
Mature cattle	Cattle over 2 years old or female bovines that have had at least one calf. A mature male bovine is often employed for breeding purposes.
NAFTA	North American Free Trade Agreement. Information is available from the NAFTA Secretariat's website, http://www.nafta-sec-alena.org/DefaultSite/home/index_e.aspx.
NCFAD	National Center for Foreign Animal Disease
Neurological	Related to the nervous system such as disorders of the brain.
Nutraceutical	A product isolated or purified from food that is generally sold in medicinal forms not usually associated with food.
Offal	The less valuable edible and inedible internal organs and trimmings of a slaughtered animal.
OIE	Office International des Epizooties. See the OIE's website at http://www.oie.int/eng/en_index.htm. The OIE was created in January of 1924, and has grown to 166 member countries as of March, 2004, including Canada. Headquartered in Paris, France, the OIE is an international organization established to improve world animal health. To accomplish this, they have created science-based health standards for international trade relating to animals. Some of these standards include increased transparency among countries and procedures for collecting and analyzing data. In order to achieve these objectives, the OIE has set a number of guidelines through the International Animal Health Code. In particular, the Terrestrial Animal Health Code obligates member countries to comply with in terms of international trade of animals and animal products. The goal of this health code is to prevent the spread of animal diseases while still promoting international trade.
OTM	Over thirty month, referring to the age of an animal.

Packer / packing house	Wholesaler packaging of meat for future sale, including slaughtering, processing and distribution to retailers.
Phytosanitary	Pertaining to measures that ensure protection of plants.
Price determination	The interaction of the broad forces of supply and demand that determine the market price level. Specific prices are determined by price discovery.
Price discovery	Process of buyers and sellers arriving at a transaction price for a given quantity and quality of product.
Prion	A sub-microscopic protein particle not comprised of nucleic acid, associated with TSEs.
R-CALF USA	Ranchers-Cattlemen Action Legal Fund, United Stockgrowers of America. According to its website, http://www.r-calfusa.com/, R-CALF USA "represents thousands of US cattle producers on domestic and international trade and marketing issues … a national, non-profit organization".
Rendering	A cooking and drying process that yields both edible and inedible fats of varying grades and livestock protein meals. The rendering industry processes or "recycles" animal by-products such as animal fat, bone, hide, offal, feathers, and blood into beneficial commodities including tallow, grease, and meat and bone meals. (http://www.rendermagazine.com)
Reference price	Average price from 5 US markets (Texas-Oklahoma, Kansas, Colorado, Nebraska, Iowa-Minnesota) converted to $CDN at current exchange rate less the historical normal price spread.
Reportable disease	Reportable Diseases are those which by Canadian law must be reported to the federal government. They represent serious health threats for animals or humans or both.
RPI	Raw Product Indicator. The index is a measure of the average change in prices over time in a market basket of goods for producers.
RSB	Regulatory Services Branch, part of AFRD's Food Safety Division. See Food Safety Division information on the website, http://www.agric.gov.ab.ca/app21/rtw/selcat.jsp.
Ruminants	Hoofed, with an even number of toes, usually horned mammals which have a stomach divided into four compartments and chew cud. These include cattle, deer, elk, and bison.
Scrapie	The transmissible spongiform encephalopathy in sheep.
Select	USDA grade designation below Choice.
Set aside	A requirement of the Alberta Fed Cattle Competitive Bid Program wherein participants were required to remove livestock from the slaughter queue for a minimum eight-week period.

Specified risk materials	Parts of the ruminant which are most likely to contain infectivity when the animal is infected with BSE. These include brain, spinal tissue, eyes, tonsils, and lower small intestine.
SRM	See specified risk material.
Steer	A male bovine castrated early in life, usually as a calf.
Thin meat	Includes such cuts as flank steaks, boneless chuck, short ribs, spare ribs, special trim, tri tips, ball tips, and boneless brisket.
TSE	Transmissible spongiform encephalopathy. A fatal neurodegenerative disorder associated with an abnormal protein known as a prion.
Upstream	Operations that precede other operations in the value chain. For example, a cow-calf operation is upstream from a feedlot, while a feedlot is upstream from a packer.
USDA	United States Department of Agriculture. See its website, http://www.usda.gov/.
WTO	World Trade Organization. An international organization with a goal to help producers of goods and services, exporters, and importers conduct their business. Established in January 1995, with headquarters in Geneva, Switzerland, it currently comprises 147 countries. Canada joined in 1995. The WTO's main functions are administering trade agreements and handling trade disputes.
Yearling	An animal that is one year old and has not completed its second year.[1]

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[1] Dictionary.com

[2] http://www.smithfieldfoods.com/Understand/Glossary/

[3] http://www.beef.org/dsp/dsp_locationContent.cfm?locationId=35

[4] http://www.inspection.gc.ca/english/anima/surv/idente.shtml

[5] http://www.agr.gc.ca/caisprogram/main.html

[6] http://www.webref.org/agriculture/

Cost of the report

Office of the Auditor General resources	$ 314,000

Audit team:

Fred Dunn, FCA	Auditor General
Jim Hug, CA	Assistant Auditor General
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Outside Consultants	125,000

George Morris Centre for Agri-Food Research and Education
Informa Economics Inc. (formerly 'Sparks Companies Inc.')
Serecon Management Consulting Inc.

Out-of-pocket expenses	39,000
Total project cost	$ 478,000